

CRISP Automation Systems Documentation
Manual Number: MAN-CENT-INST-031
Subject: CRISP Central Administration 3.1 Installation and Configuration
Date Created: 08/24/2002 Revision 1.0 Date Revised: N/A

Effective Date: 08/24/2002

Supersedes: N/A

Revision History

<u>Revision</u>	<u>Date Issued</u>	<u>Description</u>	<u>Author</u>	<u>Approved</u>
1.0	08/24/2002	Original Issue	S. Quayle	K. Wild

Reference Documents:

N/A

Prepared By: Stanley Quayle
Dept: Engineering
Effective Date: 08/24/2002

Approved By: Kenneth Wild
Dept: Quality Assurance
Supersedes: N/A

Note: This document is only valid on the date that it is printed.

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Installation and Configuration

General

This manual provides a step-by-step installation procedure for CRISP Central Administration, Version 3.1 and later. This procedure can be used for a new installation or for updating an existing CRISP Central Administration system.

This manual also provides the necessary information to configure and use CRISP Central Administration.

This manual is broken down into the following sections.

Section	Description
On-Line Release Notes	Defines the location of the release notes and how to access the notes.
Requirements	Defines the system requirements before installation of CRISP Central Administration
Using VMSINSTAL	Defines the VMSINSTAL command
Installing CRISP Central Administration	Defines the procedures to install the CRISP Central Administration product.
Configuring CRISP Central Administration	Defines the procedures to configure the CRISP Central Administration product.
User Configuration	Defines the procedures to configure users in the CRISP security domain.
Enabling Data Retrieval	Specifies how to create accounts for data retrieval.

Prepared By: Stanley Quayle

Dept: Engineering

Effective Date: 08/24/2002

Note: This document is only valid on the date that it is printed.

Approved By: Kenneth Wild

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Supersedes: N/A

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NOTE

Before performing this procedure, verify that the system hardware and software has been properly installed per the appropriate OpenVMS documentation.

Refer to the Software Product Description (SPD) document for details on required OpenVMS software.

Prepared By: Stanley Quayle
Dept: Engineering
Effective Date: 08/24/2002

Approved By: Kenneth Wild
Dept: Quality Assurance
Supersedes: N/A

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On-Line Release Notes

General

On-line release notes are provided with each distribution of CRISP Central Administration. When VMSINSTAL is invoked with the `OPTIONS N` parameter, a prompt to print or display the release notes appears during the installation.

After CRISP Central Administration has been installed, the release notes may be printed or typed by accessing the file `SYS$HELP:CENT031.RELEASE_NOTES`.

The release notes for each release of CRISP Central Administration are distributed for those users who are upgrading by several versions at once.

Prepared By: Stanley Quayle
Dept: Engineering
Effective Date: 08/24/2002

Approved By: Kenneth Wild
Dept: Quality Assurance
Supersedes: N/A

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Requirements

General

Depending on the media and the system configuration, the installation of CRISP Central Administration takes a few minutes. The following privileges and resources must be available before CRISP Central Administration can be installed.

- SETPRV privileges, or CMKRNL, WORLD, and SYSPRV privileges
- Free disk space as follows:
 - 1800 blocks on the system disk
 - 2000 blocks on the CRISP disk.
- An additional amount of disk space equal to the total of the previous numbers is required on the system disk during installation. This space will be released when the installation completes or otherwise terminates.
- A minimum of 32 MB (VAX) or 64 MB (Alpha) of physical memory.

CRISP Central Administration can be installed either on a system with CRISP/32, or on a system without CRISP/32.

Prepared By: Stanley Quayle
Dept: Engineering
Effective Date: 08/24/2002

Approved By: Kenneth Wild
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Supersedes: N/A

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Using VMSINSTALL

Description

VMSINSTALL is the command procedure invoked to install CRISP Central Administration. Before invoking this command procedure, log into the system management account, username SYSTEM. Execution of the VMSINSTALL command procedure is shown in steps 1 and 2 of the Installing CRISP Central Administration sections of this manual.

Format

The VMSINSTALL command procedure has the following syntax.

```
$ @SYS$UPDATE:VMSINSTALL CENT031 ddcu: [OPTIONS N]
```

ddcu: Represents a device name where the distribution volumes are mounted for the CRISP Central Administration installation media, where **dd** is the device code, **c** is the controller code, and **u** is the unit number. The device name used in examples in this manual is **MUA0:**.

OPTIONS N Is an optional parameter used if you want to be prompted to display or print the CRISP Central Administration release notes. If omitted, you are not prompted to display the release notes.

How It Works

If you do not supply the first two parameters, VMSINSTALL prompts you for the product and device names. The syntax in this case would be as follows.

```
$ @SYS$UPDATE:VMSINSTALL
```

When VMSINSTALL is invoked, the following are checked.

- Whether you are logged in to a privileged account. It is recommended that you install

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Dept: Engineering

Dept: Quality Assurance

Effective Date: 08/24/2002

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software from the system manager's account.

- Whether you have adequate quotas for installation. VMSINSTAL checks for the following quota values.
 - ASTLM = 24
 - BIOLM = 18
 - BYTLM = 18000
 - DIOLM = 18
 - ENQLM = 30
 - FILLM = 20

At this point in the installation, VMSINSTAL checks whether any user processes are running. If VMSINSTAL detects these processes, you are prompted as to whether you want to continue the installation. Enter YES to continue or <return> to stop the installation.

If CRISP/32 is running, installation is not possible. The installation kit detects this situation and aborts before any changes are made to the system.

NOTE

Unpredictable results may occur if other users are logged in during the installation.

Prepared By: Stanley Quayle
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Effective Date: 08/24/2002

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Installing CRISP Central Administration

General

This section contains explains the installation procedure. Defaults, where available, appear in brackets throughout the installation procedure.

The installation procedure may be aborted at any time by entering CTRL/Y. If CTRL/Y is pressed, the installation procedure deletes all files it has created up to that point and returns you to the VMSINSTAL prompt.

Requirements Before Installation

Before CRISP Central Administration can be installed, the license product authorization key (PAK) called "CRISP-CEN" must be installed and loaded. If the license is not installed, the installation procedure will terminate.

Installation of the CRISP Central Administration kit may translate the CRISP security file to a new version. The characteristics of the security file depend on whether or not Window Workstation Enhanced Security will be used on the system. If Enhanced Security is to be used, its "CRISP-WWSPLUS" license PAK should be installed and loaded before starting the installation process.

The installation procedure determines whether or not CRISP/32 is installed on the system by the presence of system logical name CRISP\$, and the presence of file CRISP\$DOC:CRISPREL.DAT. If the system is really a CRISP/32 system, those logical names must be present for proper operation of the installation.

Security Note

The installation procedure will add an ACL (Access Control List) entry to the DECnet proxy database, which is usually SYS\$SYSTEM:NETPROXY.DAT. If DECnet-Plus is installed, the ACL is also added to file SYS\$SYSTEM:NET\$PROXY.DAT.

Prepared By: Stanley Quayle
Dept: Engineering
Effective Date: 08/24/2002

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This access control list allows username CRISP and other usernames with the same UIC to modify DECnet proxy entries. The configuration scripts add or delete proxy entries as a part of their operation.

Access to the VMS command prompt for username "CRISP" and usernames with the CRISP UIC should be restricted to system administration personnel. Restricting access is the responsibility of the customer.

Installation Procedure

Perform the following steps to install CRISP Central Administration.

Step 1. Log in to a privileged account.

```
<Ret>
Username: SYSTEM<Ret>
Password: <Ret>
$ SET DEFAULT SYS$UPDATE <Ret>
```

Step 2. Invoke VMSINSTAL

```
$ @VMSINSTAL CENT031 MUA0: OPTIONS N <Ret>
```

```
OpenVMS VAX Software Product Installation Procedure V7.3
```

```
It is 16-AUG-2002 at 19:30
```

```
Enter a question mark (?) at any time for help.
```

```
Are you satisfied with the backup of you system disk [YES]? <Ret>
```

Press the Return key if you are satisfied with the backup of your system disk; otherwise, enter NO to discontinue the installation procedure.

Prepared By: Stanley Quayle

Dept: Engineering

Effective Date: 08/24/2002

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Step 3. Mount the first installation kit volume

Please mount the first volume of the set on MUA0:.
Are you ready? **YES** <Ret>

The following products will be processed:

CENT V3.1

Beginning installation of CENT V3.1 at 19:35

%VMSINSTAL-I-RESTORE, Restoring saveset A...

To continue the installation, mount volume 1 and enter YES.

Step 4. Select a release notes option

This step applies only if OPTIONS N was specified in step 2.

Release Notes Options:

1. Display release notes
2. Print release notes
3. Both 1 and 2
4. None of the above

Select option [2]: <Ret>

If option 1 is selected, VMSINSTAL displays the release notes. Terminate the display by pressing CTRL/C. At this time, VMSINSTAL copies the release notes to SYSS\$HELP.

If option 2 is selected, VMSINSTAL prompts you for a queue name (use this option only if a print queue has been setup on your system). Either enter a queue name or press the Return key to send the file to the default output print device. After printing the release notes, VMSINSTAL copies the release notes to SYSS\$HELP.

Prepared By: Stanley Quayle Approved By: Kenneth Wild
Dept: Engineering Dept: Quality Assurance
Effective Date: 08/24/2002 Supercedes: N/A
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Queue name [SYS\$PRINT]: <Ret>

If option 3 is selected, VMSINSTAL displays the release notes. Terminate the display by pressing CTRL/C. VMSINSTAL then prompts you for a queue name. Either enter a queue name or press the Return key to send the file to the default output print device. After printing the release notes, VMSINSTAL copies the release notes to SYS\$HELP.

If option 4 is selected, VMSINSTAL does not display, print, or copy the release notes. It prompts you to decide whether to continue the installation.

Do you want to continue the installation [N]: Y <Ret>

Enter YES to continue the installation. If you enter NO, VMSINSTAL discontinues the installation.

NOTE

The version of the CRISP Central Administration release notes file installed by VMSINSTAL is labeled with the current product name and version number (e.g., CENT031.RELEASE_NOTES). Do not delete release notes for previous versions of CRISP Central Administration.

Step 5. Installation questions

This section shows the questions that are asked during installation.

Do you want to purge files replaced by this installation [YES]?

The system directory SYS\$LIBRARY and the CRISP directories may contain previous versions of CRISP Central Administration files. New versions of these files are provided during installation, but the old files will not be purged unless you answer YES to this question.

Enter device name for Central Administration files [DISK\$USER:]:

Prepared By: Stanley Quayle
Dept: Engineering
Effective Date: 08/24/2002

Approved By: Kenneth Wild
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Enter a logical or physical name for the disk drive on which the CRISP Central Administration files are to be installed. If you are upgrading from a previous version of CRISP Central Administration, this should be the same as the disk on which CRISP Central Administration is currently installed. If this is a new installation, a [CRISP] directory and several subdirectories will be created on this disk.

Enter CRISP account UIC [[50,1]]:

This question is only asked if username CRISP does not exist on the system. Account CRISP will be created with the UIC specified. Normally, the default answer is acceptable. If a different UIC is specified, it must have the proper format (two octal number separated by a comma and enclosed in brackets, i.e., [123,456]).

Do you want to shut down the update job [Yes]?

Batch job CENTRAL_UPDATE_NODES keeps the satellite nodes updated. On an upgrade installation, this job must be stopped. If the answer to this question is No, installation is terminated.

Will the CRISP-WWSPLUS license be installed later [NO]?

This question is asked only if a CRISP security file, CRISP\$CFG:CRISP_UAF.IDX, was found on the system. The format of this file has changed from previous versions, and the installation procedure will convert the file, if necessary. The conversion is dependent on whether or not the Enhanced Security license will be installed. If the license has not already been installed, the user is asked if the license will be installed later.

Password lifetime, days (0 = none) [x]?

Minimum autologout time, minutes (0 = none) [x]?

Login failure limit (0 = none, 5 max) [x]?

These questions are asked only if a CRISP security file, CRISP\$CFG:CRISP_UAF.IDX, was found on the system. The values for "x" are those previously configured. If not previously configured, default values are presented.

Prepared By: Stanley Quayle

Dept: Engineering

Effective Date: 08/24/2002

Note: This document is only valid on the date that it is printed.

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Step 6. End the installation procedure

When the installation procedure completes, the following message is displayed.

```
VMSINSTAL procedure is done at hh:mm  
$
```

The distribution media (tape) may now be removed from the drive.

Prepared By: Stanley Quayle
Dept: Engineering
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Configuring CRISP Central Administration

General

Once the CRISP Central Administration software is installed on the central node in the security domain, it must be configured for proper operation. Configuration is necessary on the central node, and on each CRISP/32 or Window Workstation system that belongs to the CRISP security domain.

Central Node Configuration

The central node is configured as follows.

1. Log in to the CRISP account.

Log into the CRISP account.

```
<Ret>
Username: CRISP<Ret>
```

1. Set the CRISP password.

If the CRISP account did not already have a password assigned, assign a password now. The following example shows the procedure, but the "abcdefg" password is **not** recommended.

```
$ SET PASSWORD <Ret>
New password: abcdefg <Ret>
Verification: abcdefg <Ret>
```

1. Add CRISP Central Administration to the system configuration.

SYSTARTUP

Add the following to SYSTARTUP_VMS.COM (SYSTARTUP_V5.COM on OpenVMS 5.5 systems). This file is found in directory SYS\$MANAGER. At system boot time, these changes will cause the CENTRAL_UPDATE_NODES job to start and run on a recurring basis to update the

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Dept: Engineering

Dept: Quality Assurance

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satellite nodes.

System with CRISP/32 Installed

After the "@DISK\$USER:[CRISP]CRISP_SETUP" line.

```
$ @CRISP$:CRISP_START_CENTRAL
```

System without CRISP/32 Installed

```
$ @DISK$USER:[CRISP]CRISP_SETUP_LNM  
$ @CRISP$:CRISP_START_CENTRAL
```

SYLOGICALS

If CRISP/32 is not installed, add the following to SYS\$MANAGER:SYLOGICALS.COM.

```
$ DEFINE/SYS DISK$USER "XYZ:"
```

where "XYZ" is the name of the device on which the Central Administration kit was installed.

SYLOGIN

If CRISP/32 is not installed, add the following to SYS\$MANAGER:SYLOGIN.COM.

```
$ ciamaint == "@CRISP$UTL:CIA_MAINT_WINDOW"
```

This requires DECwindows be installed and loaded on the system. Alternatively, the security file can be edited from any satellite system while the network is operational, with certain limitations.

1. Node Configuration.

Execute the following command.

```
$ @CRISP$:CRISP_CONFIG_CENTRAL <Ret>
```

The command procedure will ask the following questions. Pressing "<Ret>" at each question

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Effective Date: 08/24/2002

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selects the default presented in square brackets.

Queue name for CENTRAL_UPDATE_NODES job . . . [SYS\$BATCH]:

The name of the batch queue in which the CENTRAL_UPDATE_NODES job will run. This job copies the CRISP security files to the satellite nodes on a recurring basis.

Batch job interval, minutes [30]:

This is how often the job will attempt to copy the CRISP security files to the satellite nodes.

CRISP/32 log filespec on central node. . [CRISP\$:CRISP_*.LOG]:

This is the name of the log files that are created by the CRISP Log Server process. If the central node does not have CRISP/32 installed, the CRISP Log Server product can be installed to receive messages from other CRISP/32 nodes. Wildcards are permitted. The entry must match file names; specifying a directory name by itself will not work.

Secondary filespec on central node [DISK\$USER:[CRISP.BATCH]*.*;*]:

The name of other files that can be retrieved. If there are no special files that are to be retrieved, this question can be ignored. Wildcards are permitted. The entry must match file names; specifying a directory name by itself will not work.

Historian root directory on central node DISK\$USER:[CRISP.HIST.x.]

where "x" is the name of the node. Wildcards are not permitted.

This entry is not a file specification. When Historian data is to be retrieved, the database and symbol are combined in a special way to produce a set of file names. For example, an attempt to retrieve Historian data for symbol "XYZ:ABC" (database XYZ, tag name ABC), looks for files:

DISK\$USER:[CRISP.HIST.x.][XYZ]ABC.HP%_*

If the root directory specification is not valid, no error will be generated, but no data can ever be retrieved.

Prepared By: Stanley Quayle
Dept: Engineering
Effective Date: 08/24/2002

Approved By: Kenneth Wild
Dept: Quality Assurance
Supersedes: N/A

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For each satellite node, the following questions are asked:

Enter name of satellite node [XYZ]:

This specifies the DECnet node name of the satellite node. If “-“ is entered, that satellite node is removed from the CRISP security domain. The central administration node cannot be entered as a satellite node name. A DECnet node number, instead of a name, can be entered, but will cause the default answers to be invalid.

Delete DECnet proxy [Y]:

This question is asked if “-“ is specified as the node name. This allows the DECnet proxy database to be cleaned of unused entries. If the node did not have a proxy database entry, and “Y” is specified, any error message can be safely ignored.

Add DECnet proxy [Y]:

This question is asked if a node name that isn’t in the satellite list is specified. This adds a DECnet proxy so that the satellite node can access the central CRISP security files. If the node already had a proxy database entry, and “Y” is specified, any error message can be safely ignored.

CRISP/32 log filespec on satellite node. . [CRISP\$:CRISP_*.LOG]:

This is the name of the log files that are created by the CRISP Log Server process. Wildcards are permitted. The entry must match file names; specifying a directory name by itself will not work.

Secondary filespec on satellite node [DISK\$USER:[CRISP.BATCH]*.*;*]:

The name of other files that can be retrieved. If there are no special files that are to be retrieved, this question can be ignored. Wildcards are permitted. The entry must match file names; specifying a directory name by itself will not work.

Historian root directory on satellite DISK\$USER:[CRISP.HIST.x.]

where “x” is the name of the node. Wildcards are not permitted.

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This entry is not a file specification. When Historian data is to be retrieved, the database and symbol are combined in a special way to produce a set of file names. For example, an attempt to retrieve Historian data for symbol "XYZ:ABC" (database XYZ, tag name ABC), looks for files:

```
DISK$USER:[CRISP.HIST.x.][XYZ]ABC.HP%_*
```

If the root directory specification is not valid, no error will be generated, but no data can ever be retrieved.

Node Configuration

On the central node, and each satellite node in the CRISP security domain, execute the following command. For proper operation, most of the values must be identical on each system.

```
$ @CRISP$:CRISP_CONFIG_WWS <Ret>
```

The command procedure will ask the following questions. The default values, if not previously configured, depends on whether or not the CRISP-WWSPLUS license is installed. Pressing "<Ret>" at each question selects the default presented in square brackets.

```
Password minimum length, characters . . . . [8]:
```

Passwords can be required to be a minimum length. A value of zero allows passwords of any length. The largest possible password is less than 256 characters in length.

```
Password lifetime default, days (0 = none). . . . [90]:
```

Passwords can be set to expire on a regular basis. When the user attempts to log in, and his password has expired, he is forced to select a new password. A value of zero means that passwords will never expire.

```
Password failures before lockout (0 = none) . . . . [5]:
```

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After the specified number of consecutive failed passwords, the user will be prevented from logging in, even with the correct password. A failure email can also be sent to a system administrator. A value of zero disables this feature.

Require mixed passwords [Y]:

Passwords are not case sensitive (“a” is the same as “A”), and can have letters A-Z, digits 0-9, and the underscore (“_”) character. A “mixed” password is one that contains at least one letter and at least one digit, subject to any minimum length.

Require employee ID’s to be unique [Y]:

Each record in the CRISP security file carries an employee ID value. If this option is enabled, it will not be possible to add a new record which matches another record’s employee ID.

Minimum WWS autologout time, minutes [10]:

If non-zero, and if there is no mouse or keyboard activity, any user logged in to the Window Workstation will be automatically logged out. The user “DEFAULT” will be logged in instead. A value of zero disables this action.

CIA_MAINT_WINDOW autologout time, minutes [5]:

The CIA_MAINT_WINDOW program is used to create and modify all usernames in the CRISP security domain. Because of the power of this program, a non-zero value is recommended. After the specified period of inactivity, the program will exit. A value of zero disables this action.

Email address to notify for security events [SYSTEM]:

If the CRISP-WWSPLUS license is not installed, the above question is not asked. When a user becomes locked out due to too many failed password attempts, an email is sent to the specified user, which could be a distribution list. A value of “-“ disables this feature.

WWS bias value, bits [0]:

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To create multiple security sub-domains, the 32 bits of Window Workstation privileges can be broken into groups. The privilege value from the CRISP security file is shifted right by the bias value before comparing with the required bitmask in the WWS display file. On the central node, if Window Workstation is not installed, this value is ignored.

Central administration node [XYZ]:

Enter the DECnet node name of the central administration node. A value of "--" disables central administration.

Add a proxy for the central administration node [Y]:

This allows the central administration node to update the local copy of the CRISP security files on a periodic basis. This question is asked only if the central node was not set as "--" previously, and if the node is not the Central Administration node.

Suppress logging of WSDIR changes [Y]:

When the Window Workstation changes screens, CRISP database WSDIR is modified. If operator action causes the screen to change, it can be logged. By answering yes, the change is not logged.

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Effective Date: 08/24/2002

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Dept: Quality Assurance
Supersedes: N/A

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User Configuration

General

The CRISP security files consist of the following files.

- CRISP\$CFG:CRISP_UAF.IDX
- CRISP\$CFG:CRISPWIN_PRIV.NAMES

CRISP_UAF.IDX

Each user in the CRISP security domain has an entry in the CRISP_UAF.IDX file. This file is a RMS indexed file, and cannot be easily transferred to a non-OpenVMS system.

Along with the user's name, a "password hash" is kept. When the user attempts to log in, his username and password are run through an OpenVMS hashing function. The resulting hash is compared against the value in the file. If they do not match, his attempt to log in is rejected.

There are entries in the user's record that are active only if the CRISP-WWSPLUS license key is installed on the system. For instance, the user cannot change his password to one that was previously used. Previous password hashes are kept in the user's record, and are checked when a password change is attempted.

CRISPWIN_PRIV.NAMES

There are 32 Window Workstation privilege bits. The names of the privilege bits is kept in the CRISPWIN_PRIV.NAMES file. When a user's entry is edited, the values from this file are used to make the privileges more readable.

Editing Privileges

There are two programs for editing user privileges:

- CRISP\$UTL:CIA_MAINT_WINDOW
- CRISP\$UTL:CIA_MAINT

Prepared By: Stanley Quayle

Dept: Engineering

Effective Date: 08/24/2002

Note: This document is only valid on the date that it is printed.

Approved By: Kenneth Wild

Dept: Quality Assurance

Supersedes: N/A

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Symbol, "CIAMAIN" runs the CIA_MAINT_WINDOW program. It requires that DECwindows be installed and running on the system.

Program CIA_MAINT is a character-cell (non-DECwindows) program. While it lacks the polish of CIA_MAINT_WINDOW, it can be used from a Telnet or SET HOST session.

When users are added or changed, and the CRISP-WWSPLUS license is installed, all changes are logged.

Remote Editing

While the network is available, the editing programs can be run from any system in the CRISP security domain. Privileges for users can be modified, and all nodes will access those values immediately.

However, the WWS privilege names in CRISP\$CFG:CRISPWIN_PRIV.NAMES are not updated when CIAMAIN is run from a remote system. This can cause confusion, leaving the privilege names different on different systems. Therefore, editing privileges on the central administration system is preferred.

Network Issues

When the network is operational, each satellite retrieves its values from the central administration system. Each program on the satellite (Window Workstation, CIAMAIN, etc.) creates a subprocess to test connectivity to the central node. If connectivity is successful, system logical name CRISP\$CENTRAL_OKAY is set to a non-zero value.

The CENTRAL_UPDATE_NODES batch job on the central node will attempt to copy the latest set of security files to the satellite nodes on a periodic basis. Success or failure on the copy attempts are recorded in log file CRISP\$:CENTRAL_UPDATE_NODES.LOG.

If a satellite node cannot access the central node, it uses a local copy of the security files. Any changes to the files are prevented. Therefore, users cannot change their passwords. This means that a user with an expired password cannot log into a satellite node when the central system is unavailable. Also, lockouts of users cannot occur.

Prepared By: Stanley Quayle

Approved By: Kenneth Wild

Dept: Engineering

Dept: Quality Assurance

Effective Date: 08/24/2002

Supersedes: N/A

Note: This document is only valid on the date that it is printed.

Date Printed:

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Manual Number: MAN-CENT-INST-031
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Date Created: 08/24/2002 Revision 1.0 Date Revised: N/A

Prepared By: Stanley Quayle
Dept: Engineering
Effective Date: 08/24/2002

Approved By: Kenneth Wild
Dept: Quality Assurance
Supersedes: N/A

Note: This document is only valid on the date that it is printed.

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Enabling Data Retrieval

The Central Administration product includes a capability to retrieve data from satellite nodes. Users can have individual OpenVMS accounts, and their access to the OpenVMS command prevented.

For the user's perspective on data retrieval, refer to manual MAN-CENT-USER-031.

Creating an Account

To create an account for data retrieval, do the following as username SYSTEM:

```
$ SET DEFAULT SYS$SYSTEM:
$ MCR AUTHORIZE
COPY CRISP XYZ/PASSWORD=ABC/FLAG=CAPTIVE
```

This creates username "XYZ", with a password "ABC". These need to be communicated to the user. When the user logs in for the first time, he is forced to change his password.

Because the account is set to *CAPTIVE*, he has no command prompt access. Regardless of the user's actions, he cannot escape to the command prompt.

Prepared By: Stanley Quayle
Dept: Engineering
Effective Date: 08/24/2002

Approved By: Kenneth Wild
Dept: Quality Assurance
Supersedes: N/A

Note: This document is only valid on the date that it is printed.

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