Saving and restoring your Digi One IAP configuration

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1 Introduction

Abstract

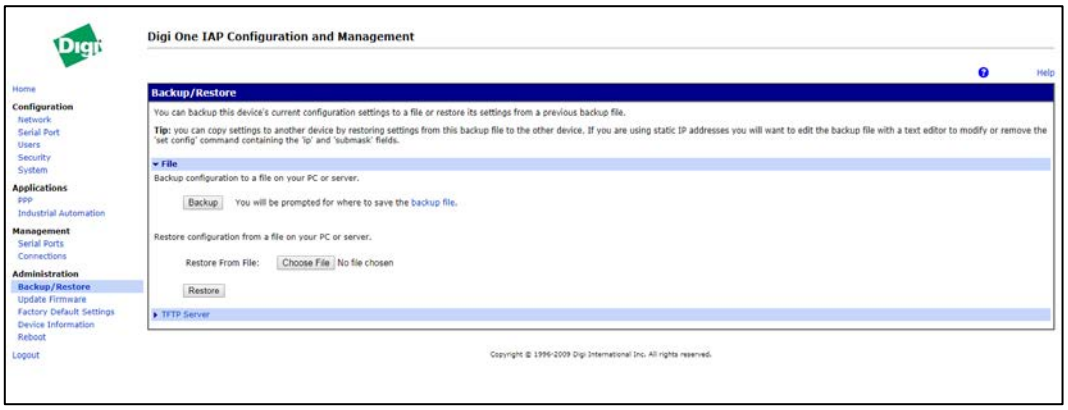
This document describes how to back up and restore a Digi One IAP configuration. The procedures will help users copy or clone complex working IA configurations among multiple units. The procedures outlined here work with all Digi DS/TS products, including Digi One SP and Digi One IA.

1.1 Using backup and restore from the Web UI

From the Web UI, under **Administration**, click **Backup/Restore**. **The Digi One IAP Configuration and Management** screen appears.

1.2 Creating a backup

1. Click **Backup**. The **backup.cfg** file is saved to the download directory of your server.



2. From the Web UI, under Administration, click Backup/Restore. The Digi One IAP Configuration and Management screen appears.

3. Click **Choose File** and navigate to the file you want to restore.
4. Click **Restore**.

2 What is in the backup.cfg file?

2.1 Partial example

Here is a partial example of what you see in the **backup.cfg** file, which is a simple text file saved in a UNIX style. Open **backup.cfg** using Wordpad.

Note Do not open it using Notepad. You can edit backup.cfg and print it as documentation of your system.

```
# Digi One IAP GDB Version lynnt20 05/27/2017 16:28:54 CDT
set config dhcp=off

set config myname="" domain=""

set config ip=192.168.1.20 submask=255.255.255.0 set config gateway=192.168.1.1

set config realport=771 securerealport=1027 sockets=2000 redirect=ignore set config
optimize=latency

set keys prevcmd=^P nextcmd=^N forwchar=^F backchar=^B set config rarp=off

set config ping-arp=off

set profile range=1 profile=ia

set line range=1 parity=N csize=8 error=ignore

set line range=1 baud=19200 stopb=1 break=ignore inpck=off istrip=off set flow range=1 ixon=off
aixon=off ixoff=off ixany=off itoss=off

set flow range=1 dtr=off cts=off dcd=off dsr=off ri=off set flow range=1 rts=off pre-delay=0 post-
delay=0

set line range=2 parity=N csize=8 error=ignore

set line range=2 baud=9600 stopb=1 break=ignore inpck=off istrip=off set flow range=2 ixon=on
aixon=off ixoff=on ixany=off itoss=off

set flow range=2 dtr=off cts=off dcd=off dsr=off ri=off set flow range=2 rts=off pre-delay=0 post-
delay=0
```

```
set ia serial ra=1 protocol=df1fullduplex type=slave chartimeout=50ms slavetimeout=1sec
checksum=crc errorresponse=off duplicatedetect=on acktimeout=250ms acklimit=3 naklimit=3
target=cif

set ia serial ra=2 protocol=modbusrtu type=slave chartimeout=20ms slavetimeout=1sec
errorresponse=off broadcast=replace fixedaddress=auto exttimeout=disabled

set ia master ra=1 active=on protocol=abethernet transport=tcp ipport=2222 table=1
chartimeout=50ms messagetimeout=2500ms idletimeout=5min priority=medium permit=all
errorresponse=on target=cif

set ia table ra=1 name=myTable

set ia table ra=1 addroute=1 active=on protocol=df1fullduplex protaddr=0-
255 type=serial port=1
```

2.2 Creating unique backup.cfg files for each Digi device

You can edit this file and create a complete collection of files for your entire system. For example, if you have 10 Digi One IAP devices in your system, you can create 10 files named **unit_01.txt to unit_10.txt** (or any names you choose).

If you are setting up 10 Digi One IAP devices, you must at least change **set config ip=XXX.XXX.XXX.XXX** to the required IP address for each device. You can also remove the **set config ip=** line from a common file shared by all devices. As you restore the file, all lines are applied over the existing configuration. If you already have set the correct IP address, you do not need the **set config ip=** line in the configuration file.

Next are some of the IA-relevant lines. Lines that begin with # are comments, so on the Digi One IAP you can fully comment your configuration file. Some older Digi products might complain about the #, but it causes no problem.

```
# Digi One IAP GDB Version lynnt20 05/27/2017 16:28:54 CDT
# add at beginning of file to FULLY clear any old config
#      don’t add this if want to ‘overlay’ on top of existing config
revert all=factory

# make sure you set the correct IP here! Plus turn off DHCP set config dhcp=off
set config ip=192.168.1.20 submask=255.255.255.0

set config gateway=192.168.1.1 set config optimize=latency

# this dev=ia is what enables the IA engine to ‘own’ this serial port
set port range=1 dev=ia sess=4 termtype="vt100" edelay=1 auto=off

# here you can set the baud rate, parity and other port settings set line range=1 parity=N csize=8
error=ignore
set line range=1 baud=19200 stopb=1 break=ignore inpck=off istrip=off

# here we define how this serial port runs, what protocols
set ia serial ra=1 protocol=df1fullduplex type=slave chartimeout=50ms slavetimeout=1sec
checksum=crc errorresponse=off duplicatedetect=on acktimeout=250ms acklimit=3 naklimit=3
target=cif

# here we define a Master or message source
set ia master ra=1 active=on protocol=abethernet transport=tcp ipport=2222 table=1
chartimeout=50ms messagetimeout=2500ms idletimeout=5min priority=medium permit=all
errorresponse=on target=cif

# here we define a destination table set ia table ra=1 name=myTable
```

```
set ia table ra=1 addroute=1 active=on protocol=df1fullduplex protaddr=0-
255 type=serial port=1
```

3 Automated backup and restore by telnet /command line

Log into the Digi device by telnet to allow simple Python or Perl programs to cruise your network and back up your Digi products. Many commercial revision control systems and PLCs can be configured to manage the Digi One IAP configuration.

3.1 Command line CPCONF command syntax

```
List/Save/Restore current configuration. syntax: cpconf [option]
options:
   term                          {List configuration to screen}
   tohost=(host)[:(filename)]    {Save config to remote TFTP Server}
   fromhost=(host)[:(filename)]  {Restore config from remote TFTP Server}
   {default filename=config.ps3}
```

3.2 CPCONF to telnet

Use the **cpconf term** command to dump the full configuration to your telnet session. If you are running an application like HyperTerminal, you can capture the full configuration manually.

Because of terminal buffering issues, you probably cannot send the output back to the Digi One IAP by telnet.

3.3 CPCONF tohost/fromhost

The Digi One IAP supports TFTP (Trivial File Transfer Protocol) as a client to read/write its own configuration. It is not a server, so you cannot force a new configuration without login access. Because the saved configuration includes the IP address, you may want to select a unique name for each.

Use the **cpconf tohost=192.168.1.98:doiap_04.txt** command to save the Digi One IAP's configuration to the TFTP server at IP **192.168.1.98** to a file named **doiap_04.txt**. Because most UNIX or Linux servers run the TFTP server "jailed" into the subdirectory **/tftpboot**, the file appears on the server as **/tftpboot/doiap_04.txt**.

Use the **cpconf fromhost=192.168.1.98:doiap_04.txt** command to restore the Digi One IAP's configuration from the TFTP server at IP **192.168.1.98** from a file probably stored as **/tftpboot/diap_04.txt**.

3.4 TFTP server for Windows

PumpKIN is a simple TFTP server and client. It is free to use, and it works as server for both **cpconf** and **reflash** of Digi One IAP firmware.