IPDevNet
The IP Developer's Network™

May 2018

Abstract:
A conversion utility for the processing of DHCP server configuration files from varying vendor solutions, and the ability to create the necessary IPControl Import formatted files.

Obtaining a copy of the software:
The Current Freeware Version of the DHCP Configuration Converter is 2.0. To request information on how to download latest version please send an email to dhcp.parser@ipdevnet.com requesting access.

Download the PDF version of this document here

Installation Notes:
The DHCP Configuration Converter is developed using Visual Basic .Net 2012 and the 4.6.1 .Net framework. The installation will therefore require that .NET 4.6.1 is installed on the PC. Download the framework directly from Microsoft (if you do not currently have it installed).

Getting Support for the DHCP Configuration Converter
Please direct all questions, suggestions, enhancement requests, and issues related to the DHCP Configuration Converter to **dhcp.parser@ipdevnet.com**. Support for this utility is not maintained by BT Diamond IP.

Using the IPControl SOAP APIs:
In order to utilize the SOAP API comparison features with IPControl, it is necessary to modify the SOAP server configuration to remove Multi-ref support. This change requires administrator access and requires that the Executive Tomcat service is restarted to activate the change.

On a Windows System:

- CD to %INCHOME%\Program Files\Diamond IP\InControl\tomcat\webapps\inc-ws\WEB-INF
- Edit the server-config.wsdd file
- Locate the setting: <parameter name="sendMultiRefs" value="true"/> and change to: <parameter name="sendMultiRefs" value="false"/>
- Save the file
- Restart tomcat via the Windows Services Controller or “net stop tomcat” and “net start tomcat” from a cmd prompt.

On a Linux System:

- CD to $INCHOME/tomcat/webapps/inc-ws/WEB-INF
- Edit the server-config.wsdd file.
- Locate the setting: <parameter name="sendMultiRefs" value="true"/> and change to: <parameter name="sendMultiRefs" value="false"/>
- Save the file
- Restart tomcat ($INCHOME/etc/tomcat restart or via the appadmin menu)

Introduction:
The premise behind the development of a DHCP configuration converter is to provide a fast and easy to use graphical interface for migrating DHCP server configurations of supported vendors to the Diamond IP - IPControl platform. This includes, but is not limited to:

- Identifying the ***Root blocks*** that are required for ***child block***s to be imported
- Identify all subnet(s), their associated CIDR block sizes, and descriptive information
- Identify all D-DHCP ranges (inclusive) that are managed by a DHCP server, and to identify the following:
    - Exclusion ranges (in the case of Microsoft)
    - Reserved IP addresses (also exclusions from the dynamic pool)
    - DHCP Options associated to the subnet or ranges
- Identify the "reserved" or "static" IP addresses that are in the ranges defined.

What is the future of the DHCP Configuration Conversion Utility?
We have maintained the configuration conversion utility for many years now; silently adding new features (and fixes) as we went along. Due to time constraints and costs, version 2.0 will be the last "freeware" version of the utility. Version 3 will *unfortunately* require that we charge a small fee to offset costs and development work. Please send your comments and suggestions to dhcp.parser@ipdevnet.com.

Here are just a few of the enhancements we are considering for version 3.0:

- Updated support for Windows 2012 and 2016 DHCP servers
- API Interface to IPControl for importing, comparing and updating converted configurations directly into the database.
- DHCP Option Import capabilities using the newest APIs
- DHCP Policy Import capabilities using the newest APIs
- A DHCP Option manager to add and modify new options to process by server (as new options are available)
- Real-time connectivity to remote servers via SSH, PowerShell and other scripting agents.
- Integration with the IPDevNet Container Builder

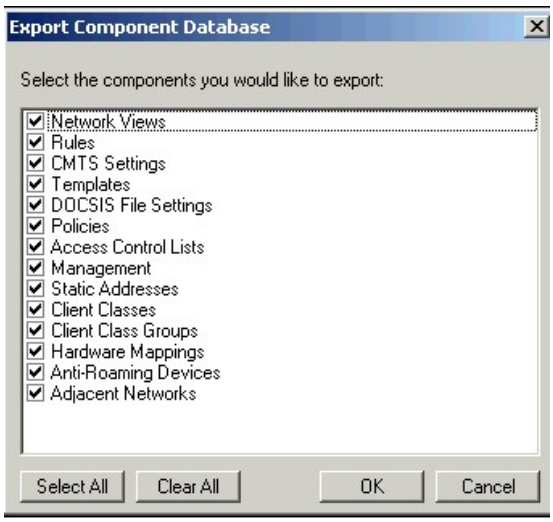
Functional Overview:
Version 2 includes many new features from the initial version I developed over 8 years ago:

- Support for *complete* Cisco IOS, ISC, Microsoft, MetaIP, NetID, Novell (DHCP3TAB), Incognito, and QIP DHCP Configuration Files.
- Comparison of converted configuration files and existing IPControl blocks (e.g. subnets), DHCP pools (i.e. ranges) and IP reservations via the IPControl API's. *Updated to support IPControl 9.0 SOAP APIs. Restful API support will be available in version 3.0.
- Differential exports of compared data to only include blocks that are not already defined in IPControl
- Advanced filters of the processed results
- Multiple file conversions and selection in a single process
- DHCP Option Template Exports in SQL format to create the DHCP templates for subnet specific options, independent templates, and subnet profile updates
- **Cisco configuration** parsing will parse *all* subnets that are defined on the router. This information is extremely useful when trying to obtain a full list of subnets - even if the subnet is not being use for DHCP.

How to obtain a configuration file for your DHCP vendor
Most of the DHCP configuration files are stored on the DHCP server in flat file format (e.g. Cisco, ISC, QIP, and NetID). These files are typically identified as follows:

- Cisco IOS - Should be the full router configuration file

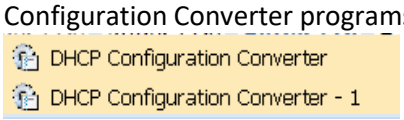
- Incognito - There is an export option available within the Incognito manager. As of this writing, it is necessary to create three separate files:
    - Rules
    - Templates
    - Static



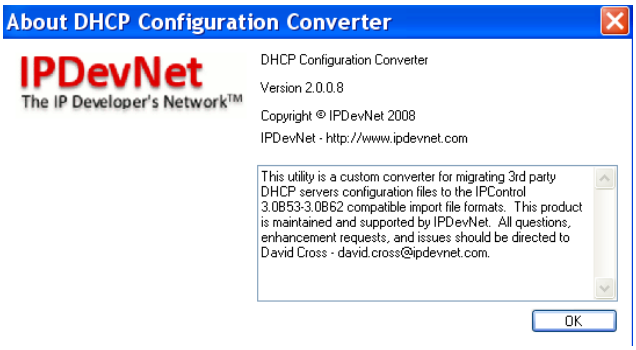
- ISC DHCP - Default name is dhcpd.conf
- VitalQIP DHCP - Default name is dhcpd.conf
- MetaIP - Default name is dhcpd.conf
- NetID - Default name is dhcpdcfg.cur
- Novell - Use the DHCP Manager export to obtain the DHCP3TAB formatted files.
- Microsoft (Windows 2003, 2008 and 2008R2 only) - Microsoft stores the DHCP configuration details in the DHCP servers' registry. To create a flat file of this information you will need to have access to the DHCP server -or- to a Domain Controller and a user with DHCP or administrator privileges.
    - Open a command prompt on the DHCP server or from the Domain Controller.
    - You can obtain a list of valid DHCP servers (AD authorized):
        - netsh dhcp showserver (The output should be a list of DHCP servers that are authorized in the Active Directory).
    - Next, type the following command substituting <server_name/IP> with your server name or IP as listed above
        - netsh dhcp server \\<server_name/IP> dump > ms-dhcpd.conf
          "E.g. netsh dhcp server \\prod-dcwin2008 dump > prod-dcwin2008-dhcp.txt"
    - You can repeat the step above for all of your DHCP servers - changing the name ms-dhcpd.conf to a unique name

Copy the configuration files to a network share or local to the PC running the DHCP Configuration Converter.

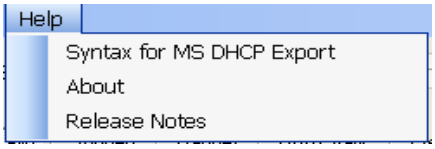
Using the DHCP Conversion Utility:
After the installation you will find the DHCP Configuration Converter by clicking on the Start button and finding the IPDevNet Folder. If you have installed versions 1.x and 2.x, you may see two DHCP Configuration Converter programs listed (differentiated by a hyphenated name with -1).



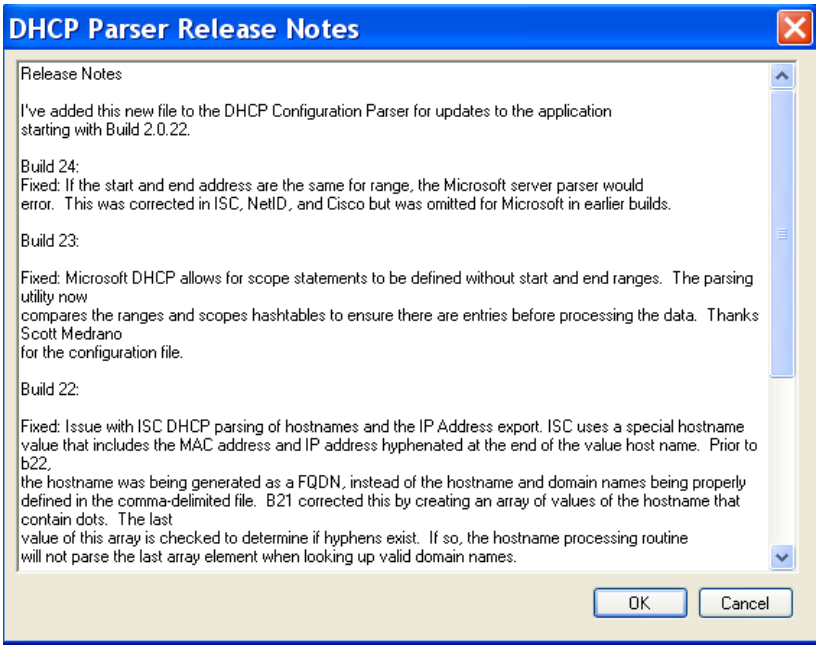
*Note: Version 2.0 provides a Help About dialog that will show the version and build.



Help and additional notes:



Release Notes:
Starting with Version 2.0 B22, a new release notes option is available under the help menu to review enhancements, bug fixes, etc. that I have made to the DHCPC Parser utility.



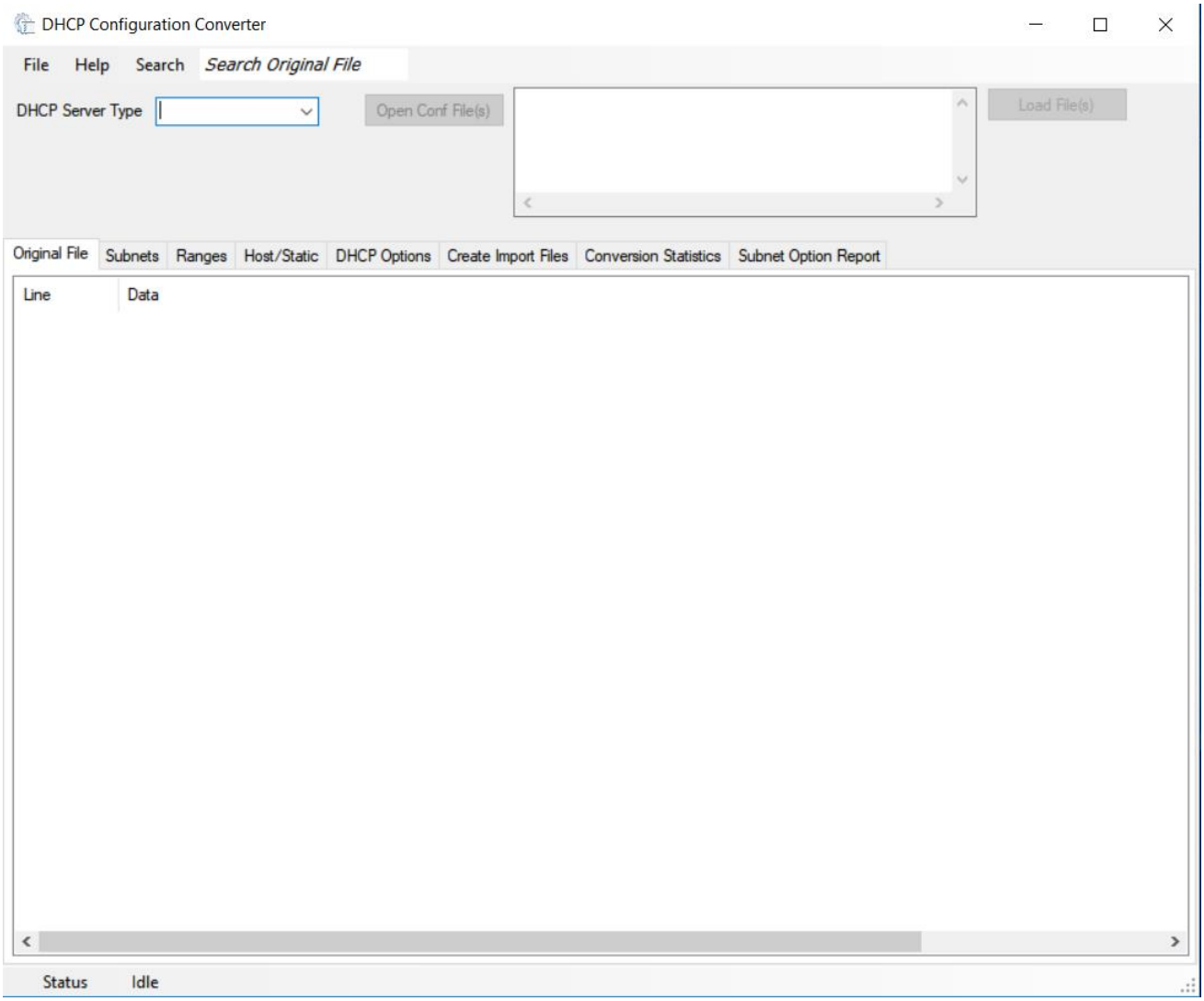
Main Window
The main window and navigation is organized by "tabs" that reflect the various configurations of the DHCP server. These are identified as:

- Original File - This is the original file that is parsed and will be populated once the utility reads through the entire configuration (examples of this later).
- Subnets - These are the subnet statements that are parsed from the configuration file (typically identified with the subnet and mask)
- Ranges - The identified range statements in the configuration file. Starting address and end address are auto-calculated based on the following:
    - Range inclusions (e.g. 192.168.0.50 - 192.168.0.100)
    - Range Exclusions - any excluded range statements. *Note: Microsoft is the only vendor that explicitly excludes ranges of addresses. The configuration converter will take into

consideration any “static” IP addresses or reserved DHCP addresses and will auto-calculate the exclusions, which in turn will auto-calculate the range inclusions. The range inclusion is the actual DHCP pool that is exported to IPControl.

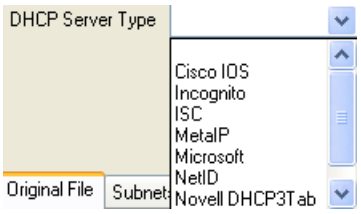
- Host/Static - Hosts that are identified “within” a range as either statically assigned or reserved DHCP (e.g. Manual DHCP).
- DHCP Options - Currently only used for MetaIP and identifying global, scope, and range specific options.
- Create Import Files - Once the configuration has been parsed, various export options will be available for exporting to an IPControl formatted import file.
- Conversion Statistics - A micro-second counter that shows the original file loading and parsing times.
- Subnet Option Report – Displays all DHCP options that have been parsed from the configuration files.

*Note: The tabs are enabled by default but will not show any information until a server type and configuration file have been selected and converted.



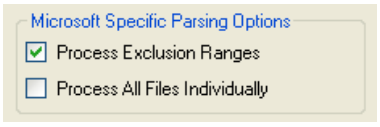
Selecting the DHCP Vendor and loading the configuration file

1. Select the DHCP Server type from the drop down list:



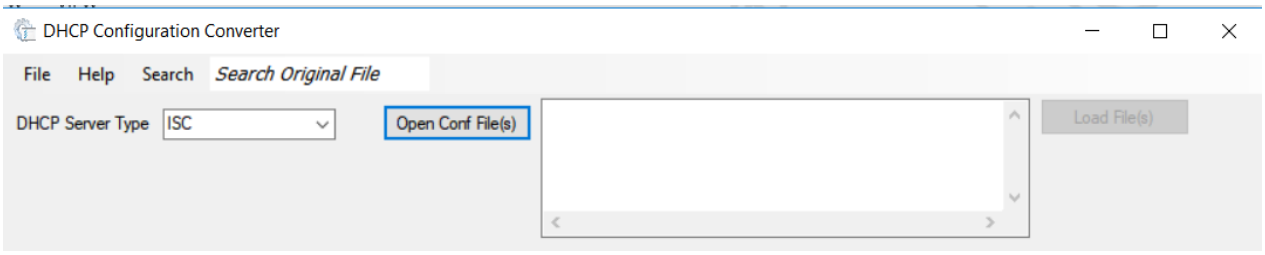
*Note: The **Microsoft** vendor type includes some additional processing options that have been included specifically for handling exclusion ranges, split scopes, and merging of ranges and file processing. When a single file is selected the following options is available:

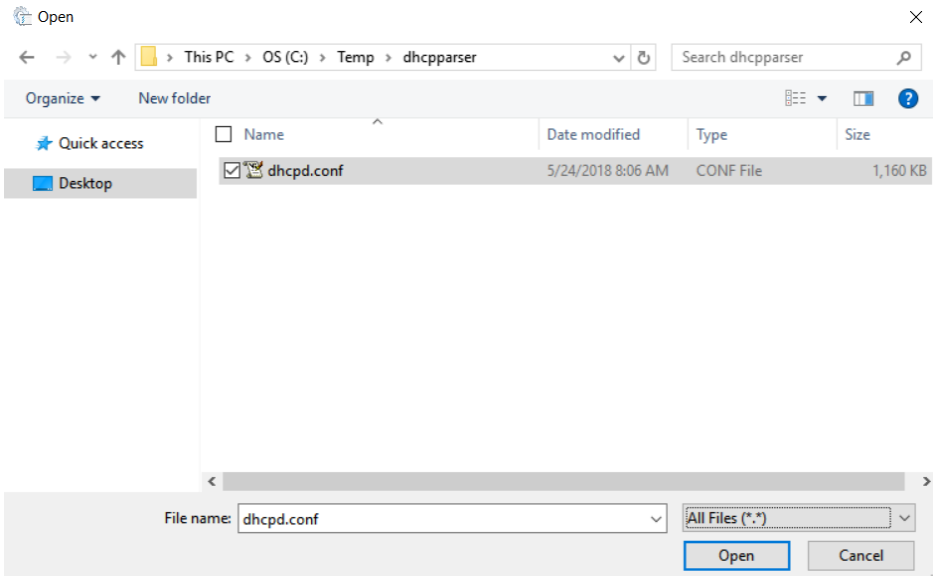
When multiple files are selected the following options are available:



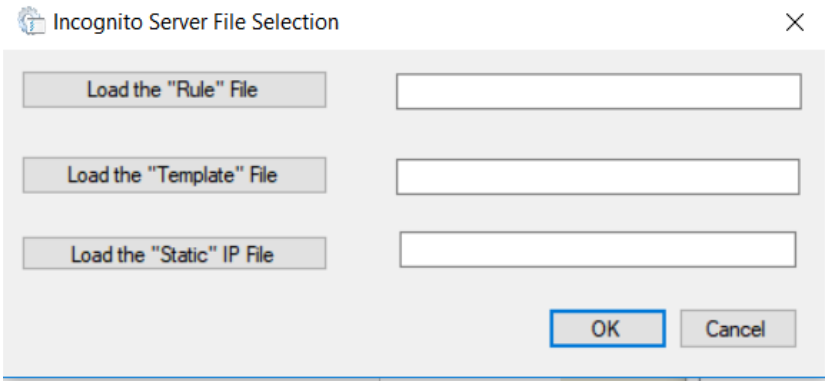
- Process Exclusion Ranges - Will explicitly process the Exclusion ranges that are defined in the DHCP server configuration file.
- Process All Files Individually - Will process each server's configuration file individually (that is - not check for duplicate ranges, subnets, IP's). This WILL generate duplicate subnets, ranges, and reserved IP's if the servers are configured in a split scope configuration, where each server has the same subnet and ranges defined. If this option is NOT selected, you should **disable** "Process Exclusion Ranges" **IF** there are **split scopes**. Otherwise, it is likely that the exclusion statements will exclude each server's ranges.

2. Once the server type is selected, the Open Conf File button is enabled. You can now use the file explorer to find the find you want to parse. You may also select **multiple** files of the same vendor type to parse in one pass by pressing CTRL while you click the multiple file names or SHIFT and using the up/down arrows to select multiple names.





***Special Note when selecting the Incognito DHCP Server type**: You will be prompted to select each of the three files for processing (e.g. Rules, Templates, and Static). The first two files are required and Static is optional.

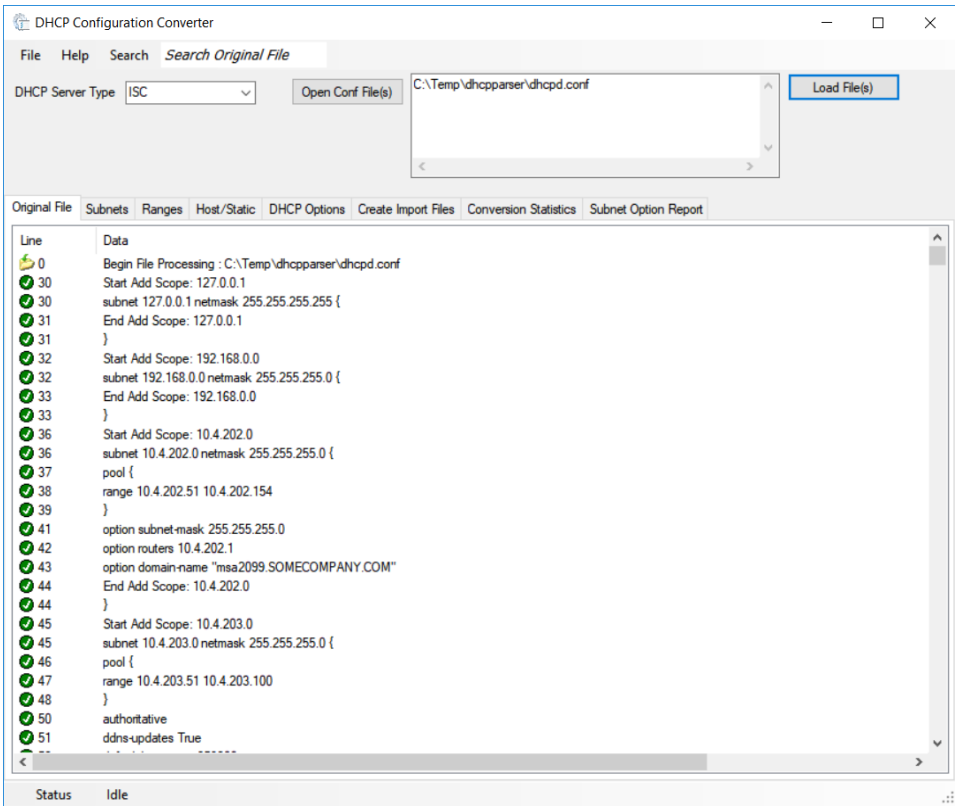


3. Click the Load File button:

The conversion process involves two processes: First, load the original file contents that will be parsed into the Original File tab. The line # of the actual file is also included for troubleshooting. Once the file contents are parsed and loaded, the converter will process each of the subnets, ranges, and reservations (static) IP addresses and update the appropriate tabs and lists.

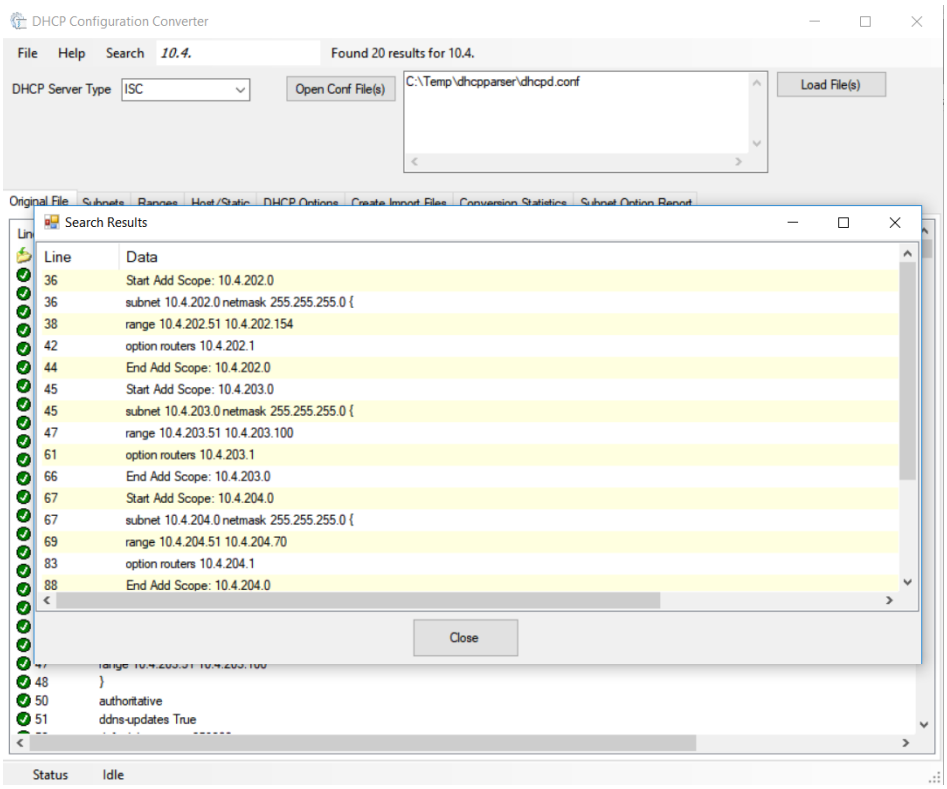
A check box is displayed with each line number that is successfully processed (parsed). If any step fails, or an error occurs you should receive a message and/or an icon will show that the current line failed. In some cases you might select a configuration file that is not correct for the current DHCP Server Type. If this is the case, the parsing of the file may continue to run (without an error), but no results will display. Verify your server type and configuration files are correct. *Note: The configuration files should be

“complete” configuration files without modification. Since some vendor solutions (e.g. ISC/QIP) use curly brackets to open and close block statements, it is important that the converter utility be capable of correctly identifying the start and end of these blocks.



There is a search box available for each of the tabs and lists for searching/filtering the data. The search box is tab specific, so it will only display the results of the current selected tab (e.g. Original Files, Subnets, Ranges, and Hosts). Type the text to search for in the Search box and either hit enter or click search. The search display is beneficial for searching on common values, text, subnet addresses, etc. for troubleshooting and validation (e.g. searching for a subnet address and all range, options, and reservations).

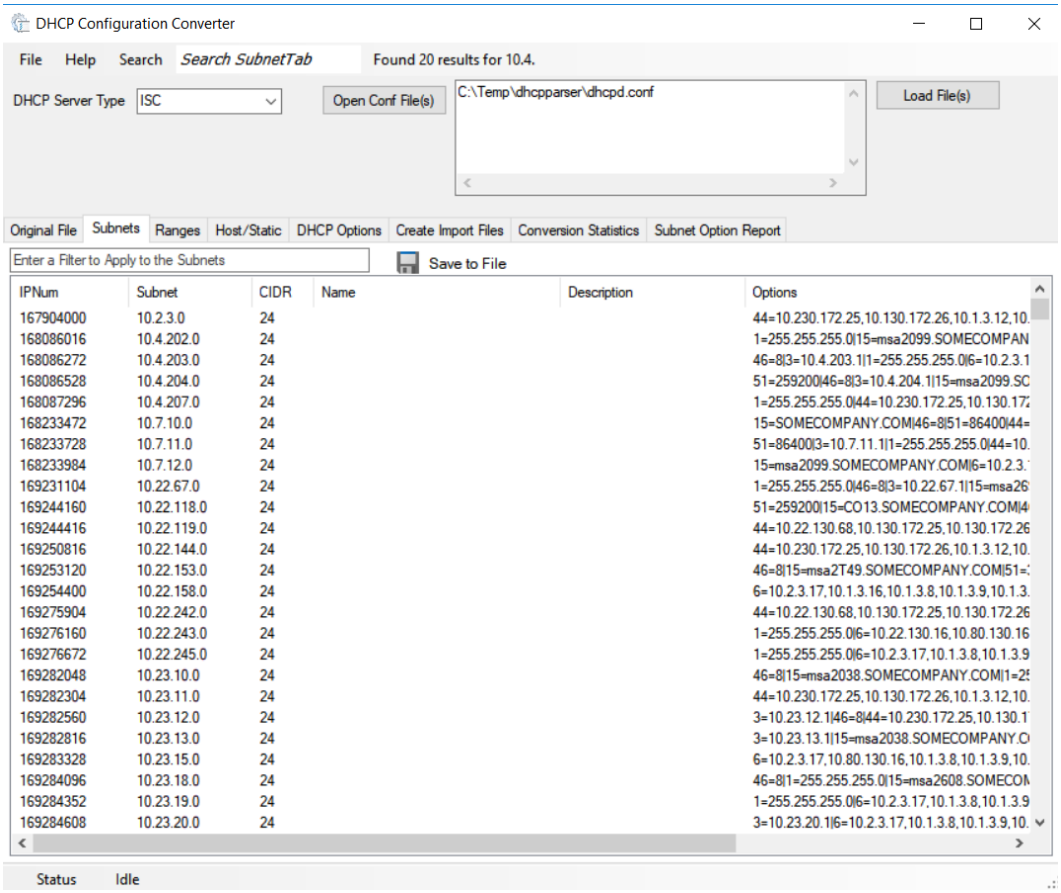
A display on the main form will show the number of matches:



How to read the Subnets Tab

The subnets tab will display the parsed configuration files and will show the following columns:

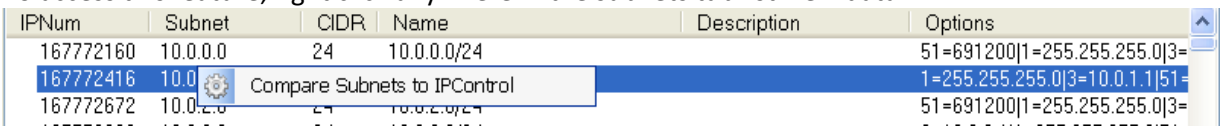
- IPNum - This field is the subnet address converted to an integer value. This is specific to sorting and validating information (sorting in ascending order only).
- Subnet - The subnet address parsed
- CIDR - The block size of the subnet statement (typically converted from a subnet mask)
- Name - Currently, only Microsoft DHCP configuration files use names or descriptive information that identifies the subnet. ISC, NetID, and VitalQIP subnet names will be the subnet address / cidr.
- Description - Specific to Microsoft DHCP
- Options - The configuration tool will parse the options that are identified at the subnet level. These options can then be used to update IPControl with subnet specific options or global options
- Filename - The configuration file name is updated for each subnet that is parsed. This field can then be used when exporting the child blocks to possibly identify which container the block should be imported to.
- Int IP - Is specific to Cisco configuration files only, and is used to set the default gateway in the child block export file.



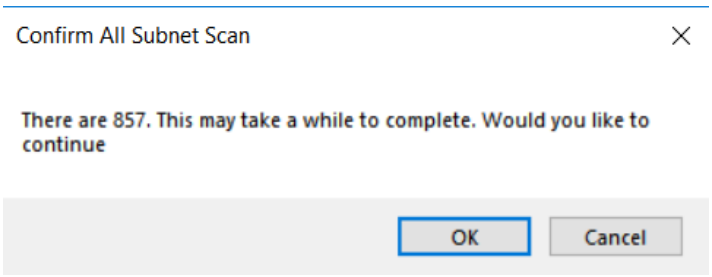
Comparing subnets to an existing IPControl Database

Version 2.0 introduces a new feature to allow you to compare subnets that were parsed in the configuration file against those already defined in IPControl. This feature uses the IPControl API's to make remote calls to the database, verifies if the subnet already exists, and updates the name of the subnet in the converter to match that of IPControl. You can then export just the differences from this comparison.

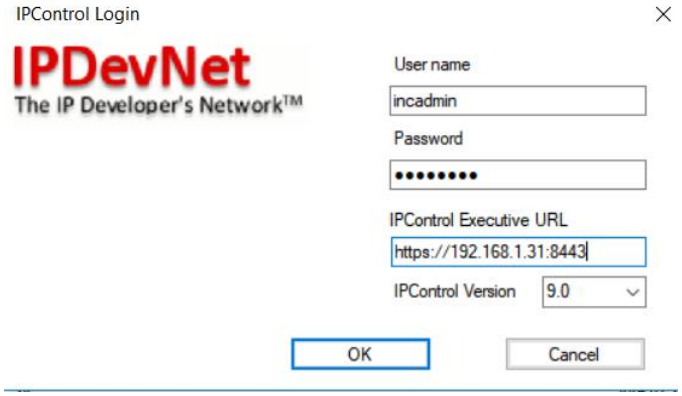
To access this feature, right click anywhere in the subnets tab list view data:



A context menu will appear with an option to "Compare Subnets to IPControl". Click on the menu option. Large numbers of subnets will prompt for an additional confirmation.

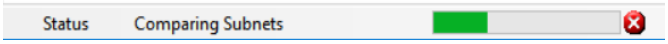


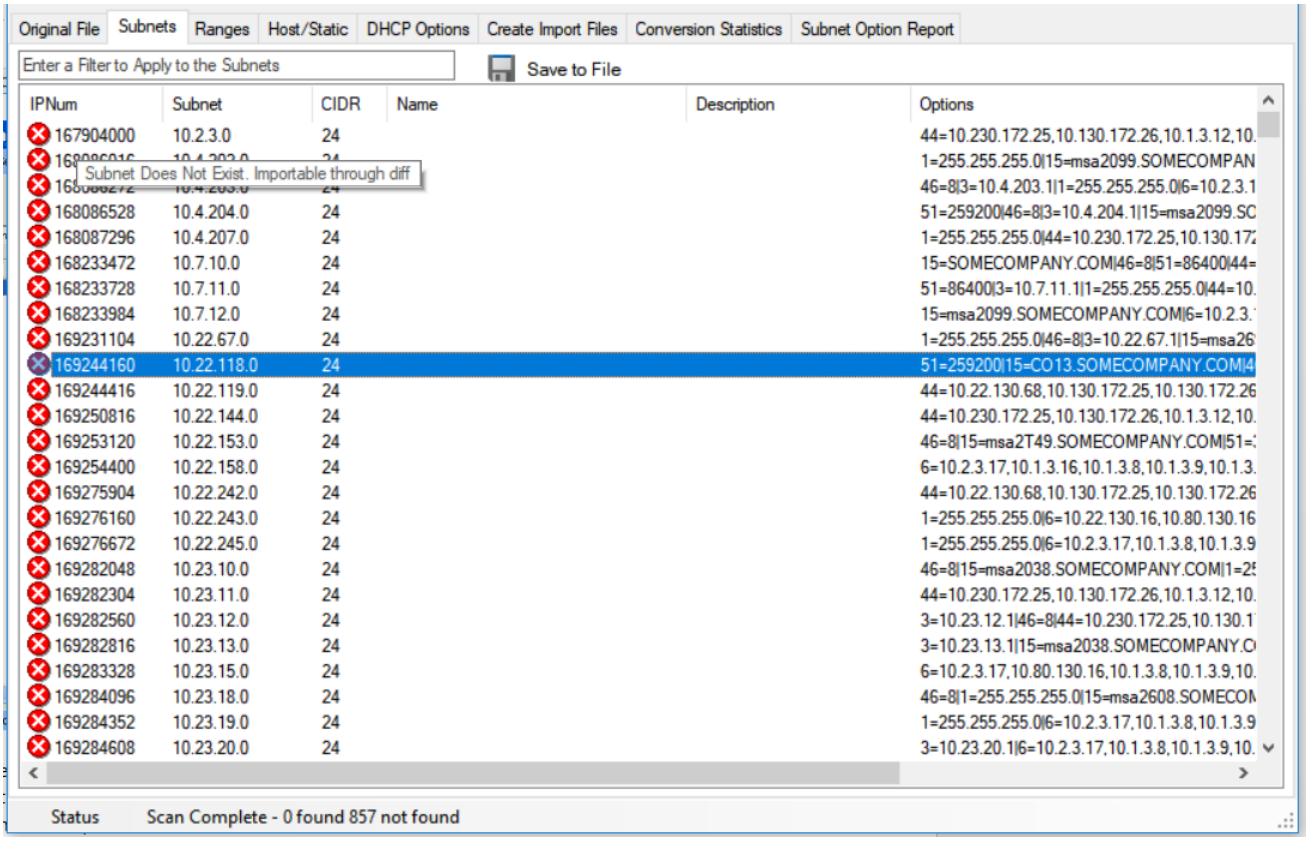
You will be prompted for a user name, password, and URL for the IPControl Executive. *NOTE: The API's currently require a master user or administrator with Superuser role access. You will only need to authenticate to IPControl once. Any subsequent comparisons will use the authenticated user's credentials (until the application closes).



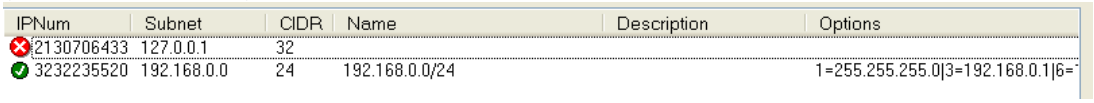
The URL must include the IP address/hostname and the port number the Tomcat services are running on (defaults to 8080 for HTTP and 8443 for HTTPS). This login attempts to authenticate the user up front, so any failed authentication will be indicated in the window.

The DHCP Configuration Converter will then check each subnet to determine if it exists in IPControl. If the subnet does exist, a check is placed beside the subnet and the Name of the subnet is updated to reflect the actual subnet name. The status bar shows the current activity and has the ability to cancel the scan by clicking the red x.





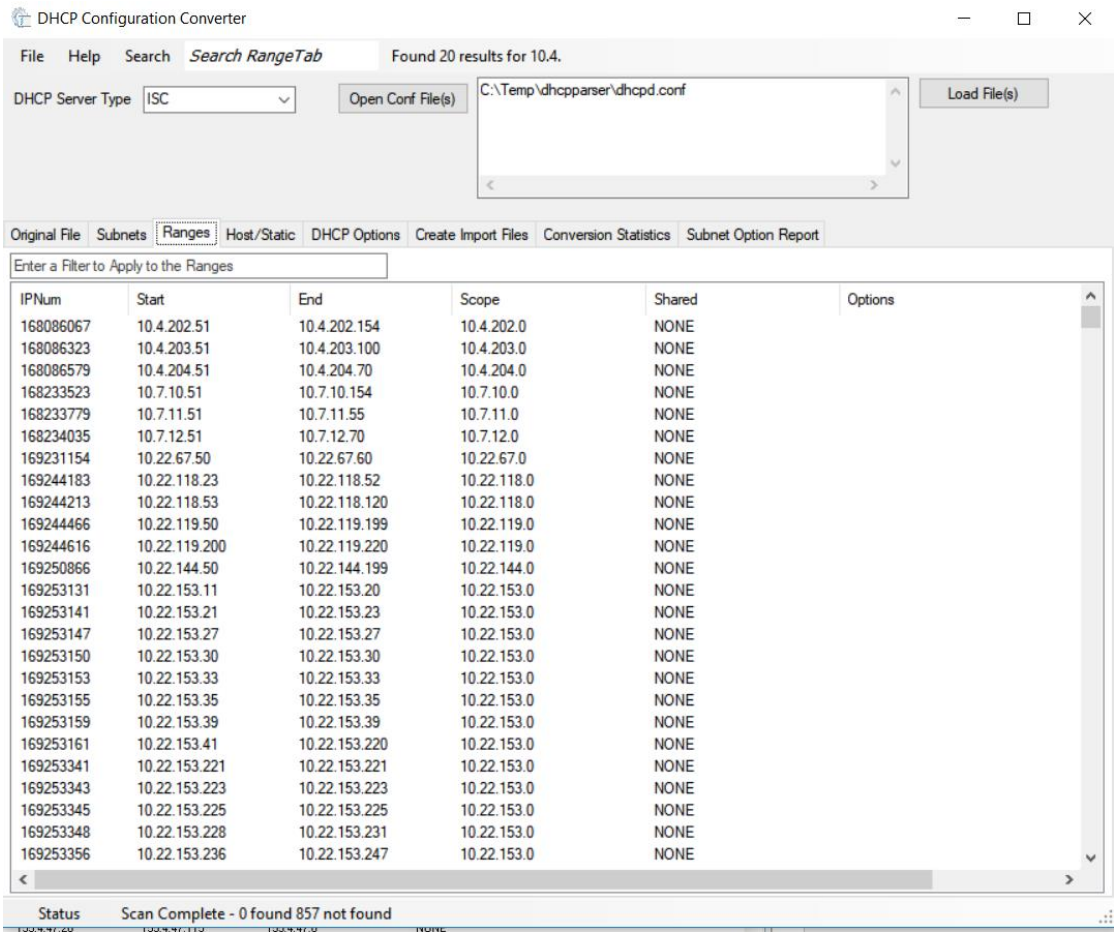
If the subnet does not exist, a red X icon will appear beside the subnet. Subnets marked with an X can be used with the Export Diff Subnets Only option of Child Block Exports in the Create Import Files tab (more on this below).



How to read the Ranges Tab

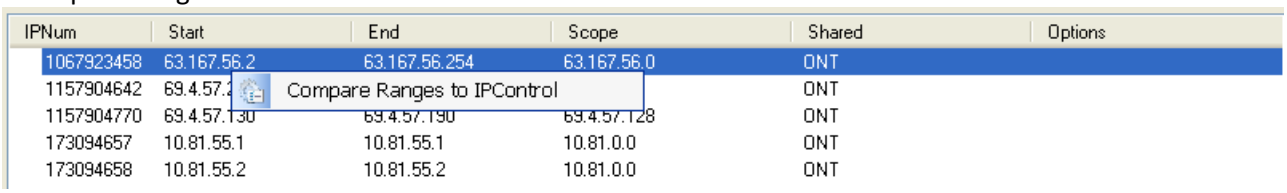
Ranges, as mentioned above, are considered “inclusive” IP addresses based on a start and end address. The DHCP converter will automatically determine the range statements by either reading a “range” block or statement in the configuration file and takes into consideration and explicit exclusions or static/reserved addresses in order to calculate this range.

- IPNum - Start address conversion to an integer value
- Start - The starting IP address of the range. *Note: The start and end address can be the same in many instances
- End - End address of the range
- Scope - The subnet that the range will be created within.
- Shared - In the case of QIP or ISC the “Shared” statement is the name that two or more subnets use to share their ranges (e.g. Multi-Netting). This setting will be set to NONE if using ISC and/or QIP and a shared statement is not present.
- Options - Currently, only NetID server types use the options column for the ranges. These Options are parsed from the “Range” statements in the configuration file and are later used to determine the scope level options for the DHCP option templates.

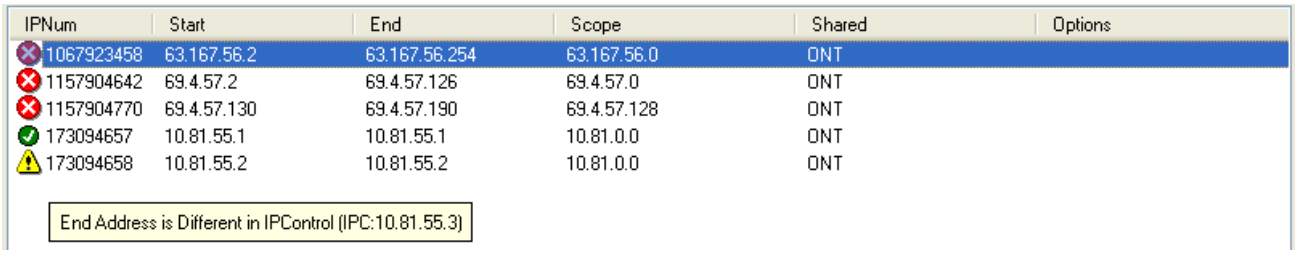


Comparing Parsed Ranges to IPControl Existing Ranges

Similar to the subnet comparison feature, 2.0.16 introduces the ability to compare the converted DHCP address pools to those that may already exist in IPControl. Right click on the range list and select “Compare Ranges to IPControl”.



This feature will use the IPControl API's and will verify the start and end address of the ranges and will confirm that they match the parsed configuration and IPControl configuration. An icon will be displayed if they exist, do not exist, or if the end address is different. A tooltip will appear showing the difference of the end address in the event they are mismatched.



How to read the Host/Static tab

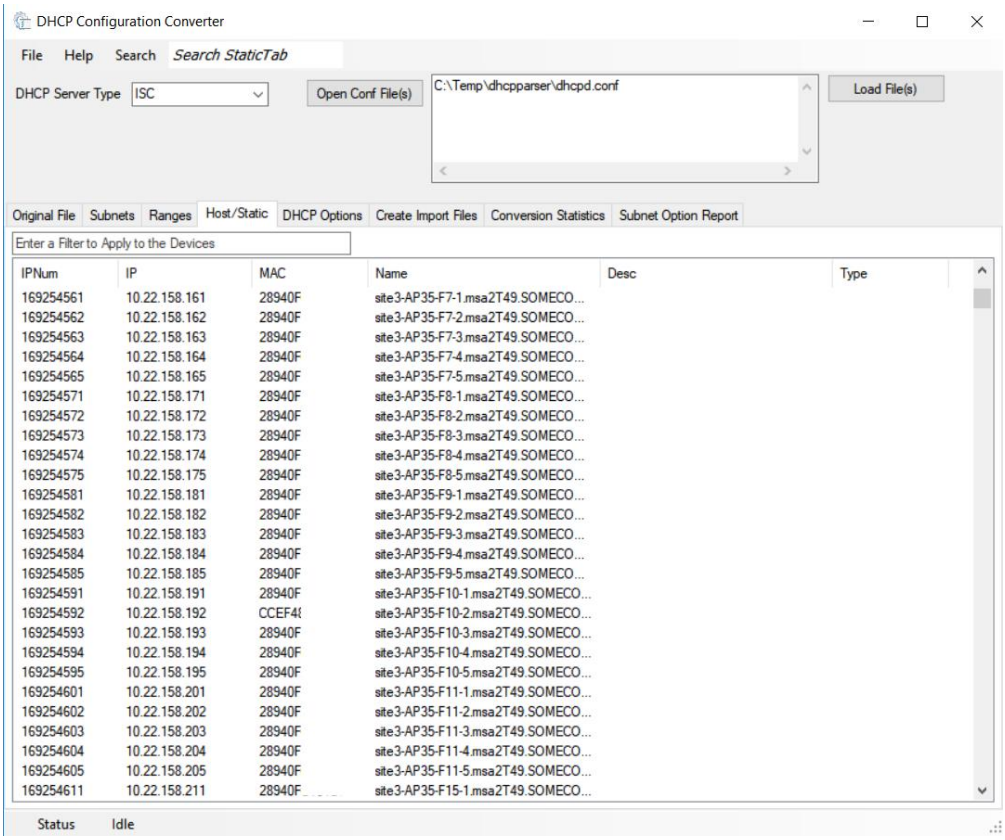
A special note about host name processing:

The host processing in the DHCP Configuration Converter processes the hosts statements in various ways depending on the server vendor selected:

- ISC - Identifies hosts in the configuration file using a host {} block statement. Information currently collected for these hosts include the hostname, MAC address, and fixed-address (or IP).
- VitalQIP - QIP identifies hosts as "Manual DHCP" {} block statements. We parse the same information for QIP as with ISC.
- Microsoft - Microsoft identifies hosts explicitly using an "add reservedip" statement in their configuration file as well as descriptive information. Note: Names entered in the Microsoft configuration may or may not be DNS compliant. The configuration converter applies several rules to name processing depending on the format (e.g. FQDN, DNS compliant, non-compliant, and null).
- NetID - The NetID host statements are general assumptions (in versions 1 and 2). First, if a host entry is identified as "static" and exists within a "range" statement, it is parsed as a static or Manual-DHCP only. NetID does not necessarily provide host names - so only IP addresses and MAC addresses are parsed from this configuration type.
- Novell - There is very little documentation available for the Novell server and what the various assignment type values represent. The converter will process addresses listed with an assignment type of "1" or "8". All others are ignored at this time.

The columns of the Host/Static tab include:

- IPNum- Integer representation of the IP address
- MAC address - The MAC address defined in the configuration file for the host statement. NOTE: The converter applies two specific rules to the MAC address parsing. First, the MAC address MUST be at least 6 bytes long (12 characters). If not, an Invalid flag is set for the MAC address. Secondly, the manufacturer prefix of the MAC is compared to the IEEE OUI's of manufacturers list (the standards list). If the MAC is not in this standards list, it is flagged as Invalid. This is due to the fact that many administrators use their DHCP configuration tools for documentation purposes and do not put "actual" or "real" MAC addresses in their reservations.
- Name (see host name processing above)
- Description and Type - only applicable to the Microsoft DHCP server configuration

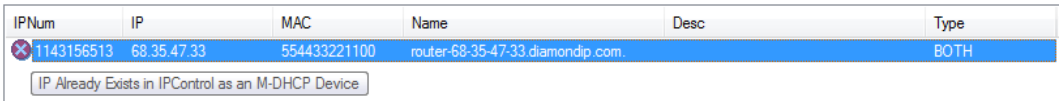


*NOTE: Full MAC addresses removed from image for privacy

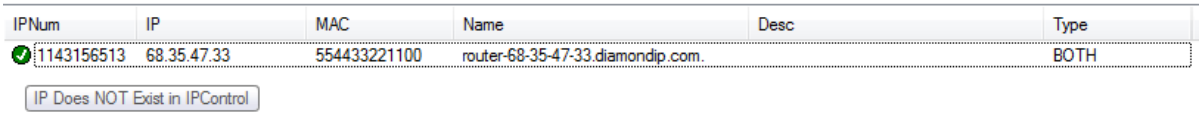
Comparing IP reservations to IPControl Manual-DHCP Devices

Similar to the subnet and range comparison features, 2.0.105 introduces the ability to compare the converted DHCP reservations to those that may already exist in IPControl. Right click on the host list and select “Compare Hosts to IPControl”.

NOTE: The results are backwards from the subnets and ranges. Addresses that already exist in IPControl will show a red X indicating they already exist. Addresses that do not exist will show a green checkbox representing that the addresses can be imported. If you hover over the checkbox or red x you will see the tooltip



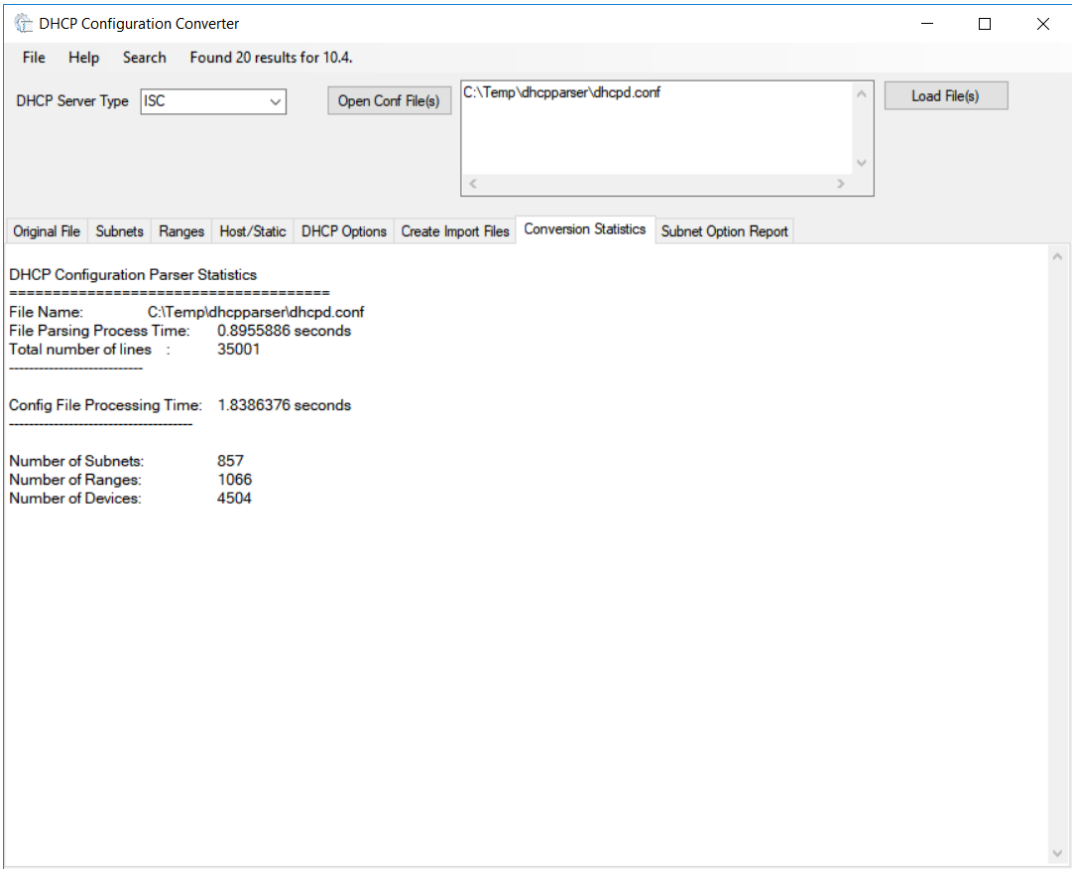
The address above already exists in IPControl



The address above does not exist in IPControl and can be imported.

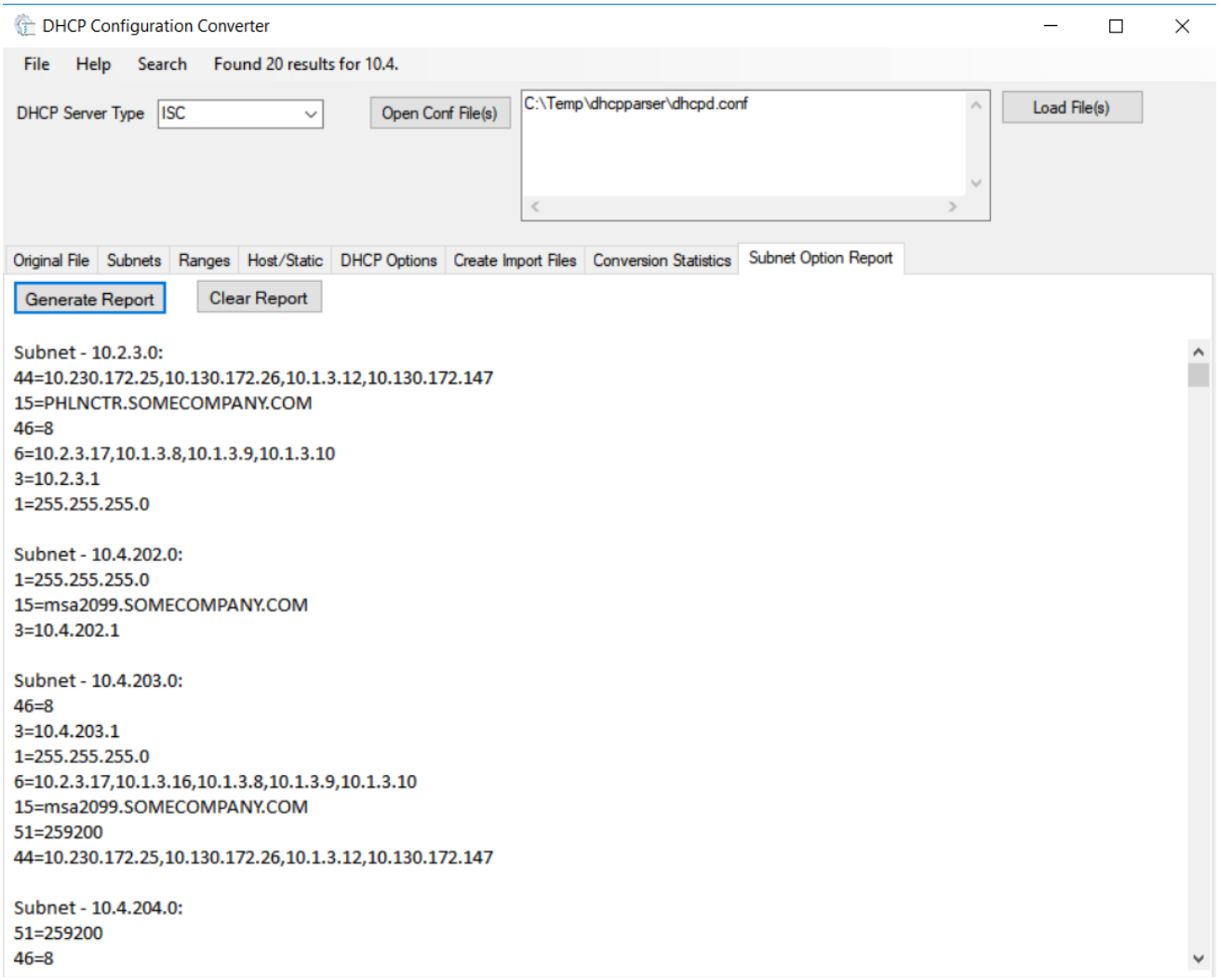
Conversion Statistics

The conversion statistics provides a micro second calculation of the amount of time required to read and parse a configuration file and the specifics related to the number of subnets, ranges, and devices.



Subnet Option Report

This tab provides the ability to generate a subnet report of all options that have been parsed.



Advanced Filter Options

Advanced filters can be applied to the Subnets, Ranges, and Host/Static data at tabs. This filter is quite useful when you want to search for specific information or to limit the views to a subset of data. The filter display is found just below the tab of each section.

*NOTE: Filters are specific to each section where they are applied (e.g. Subnets, Ranges and Hosts). If a filter is applied, it will also limit the data that is exported during the Create Import File options below. This can be also be useful if you want to limit the output to specific sets of data.

The filter syntax is based on programming AND (&&) OR (||) syntax. You can include multiple && and || filters and can separate multiple filters with a carat (^) as well as negated matches (!). To apply a filter, simply click on the filter text box and enter the text you are interested in. To reset the display, simply clear the field text box. This will reset the view back to the originally parsed information.

The filter can include the following:

Multiple Value Exact matches using '&&" - and:
Example:

3=&&51=&&242= <enter>

Will only display subnets with options 3, 51, and 242 (all three must match). There's no limit to the number of AND's that can be used.

Or matches using '||' - or:

3=||51=||242= <enter>
Will display any subnets with either of the options

You can also use combinations of logic. The ^ separates evaluation criteria:
3=&&51=&&242=^176= <enter>
Will display subnets that have 3 and 51 and 242 and a separate filter just for option 176

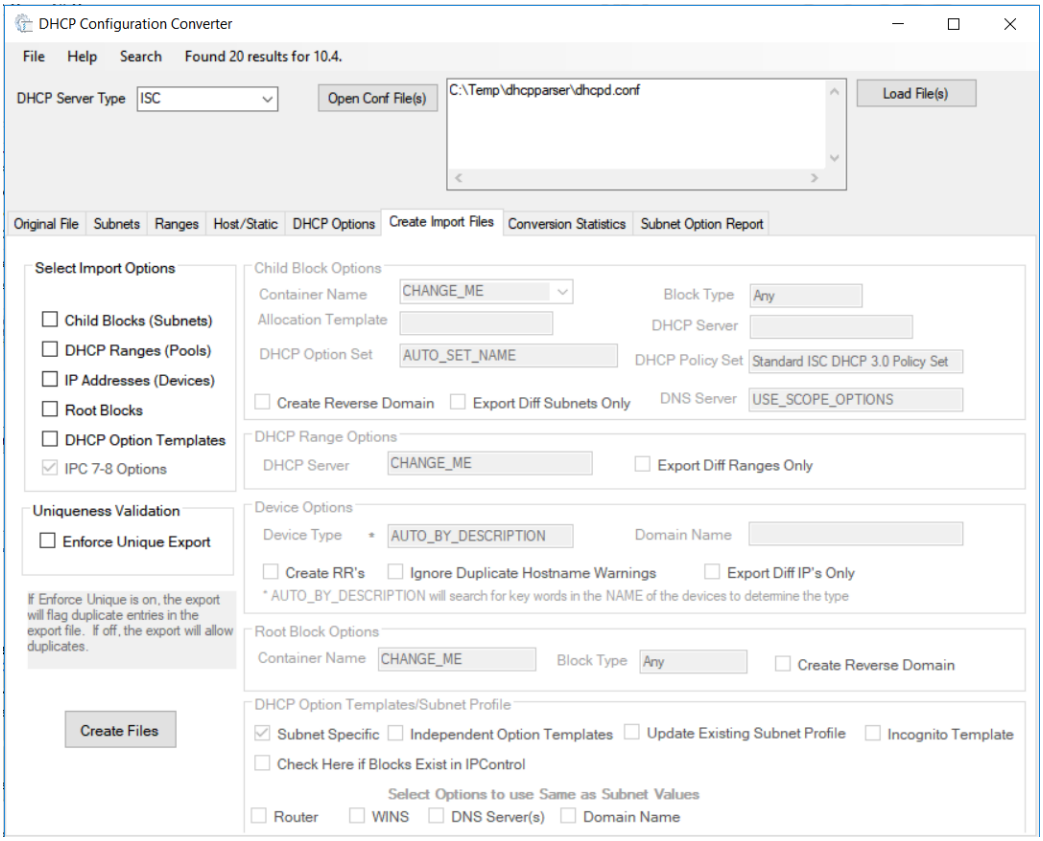
You can negate any value by using the '!' before the search word/value:
3=&&51=&&242=&&!176 <enter>
Will display subnets that have 3 and 51 and 242, but not 176

You can also use the '/' instead of enter to evaluate just the last field entered before the '/'. As an example:
3=&&51=&&242=&&!176/
Will display subnets that have 3 and 51 and 242, but not 176

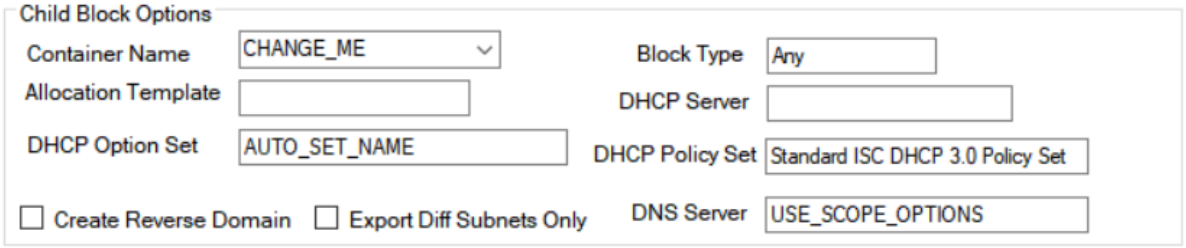
But the next line will only filter the existing results based on 150
3=&&51=&&242=&&!176/150=/

And so on.
3=&&51=&&242=&&!176/150=/MAD/

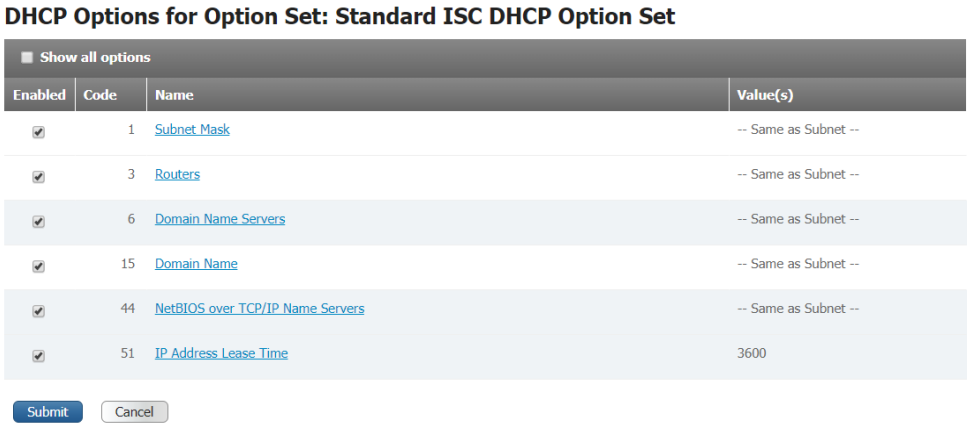
Create Import File options
The import file creation and options are managed in "groups" based on the selected import type and the available options used as default values in the import file creation. Each selected option enables the appropriate tab and allows for the values to be entered:



1. *Child Blocks:*



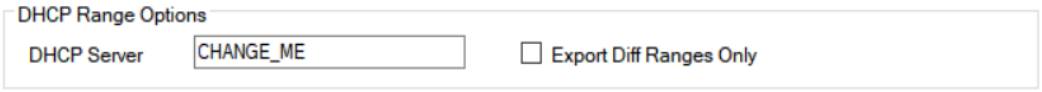
- *Container Name* - With IPControl it is necessary to specify a container name where the block (e.g. subnet) will be imported to. This is currently one of the most challenging aspects of converting information from one source to an IPControl format. *A future version may include the ability to create a pseudo container structure, drag-and-drop the converted subnets into the appropriate container, and auto-populate the containers and subnet information. If a container name is known enter it here. You can opt to import all of the subnets into a single container then move these to their appropriate containers. The Container Name option can also be set to CHANGE_ME or USE_CONFIG_NAME. This provides the ability to later modify the import file and make the appropriate changes to the container using some known methodology (e.g. site name based on the configuration file).
- *Block type* - Any or other value as defined in IPControl and set in the container policies.
- *Allocation Template* - If an Allocation Template should be used to create the IP addresses for the subnets specify it here. Keep in mind that the converter does not read the available templates and that you may have varying sizes of subnets - which a single template may not represent all.
- *DHCP Server* - This option will set the primary DHCP server IP address that will be set in the subnet profile. This DHCP server must already be defined or the child block import will fail.
- *Options sets and Policy sets* - When performing just a Child Blocks file creation, the default value assumes a default template name of “Standard ISC DHCP 3.0 Option Set”. The premise is to allow you to convert FROM a DHCP vendor TO IPControl. In this case, IPControl is an ISC based DHCP server and this is the default template. This option also assumes that you will use a global template for some/most subnets and will specify the “Same as Subnet” options. The DHCP Policy Set should be **empty** if you are planning to use Policy’s at the subnet level (most are globally defined).



- *Create Reverse* Domain - True or False value for the in-addr.arpa creation. The Child Block import will create the in-addr.arpa domain based on the subnet address if True is specified. *NOTE: If you are importing DNS domains via the ImportDNS CLI this option should be set to false.
- *DNS Server* - You can use the "USE_SCOPE_OPTIONS", which is parsed based on option 6 if it is specified in the scope options, or specify an IP address or FQDN of the IPControl DNS server.

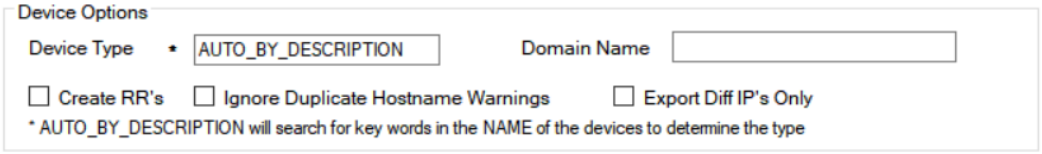
- *Export Diff Subnets Only* - This option is ONLY available if you have run the "Compare Subnets to IPControl" scan, otherwise it is disable. When selected, only the subnets marked with an X will be created in the import file.

2. *DHCP Range Options*



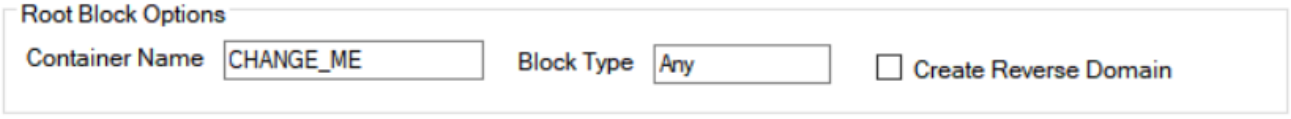
- DHCP Server - Specify the DHCP server IP or FQDN as defined in IPControl. This is required as part of the ImportAddrPool CLI.
- Export Diff Ranges Only - This option is only available if you have compared the ranges in IPControl to the current configuration file (open the ranges tab, right click on the parsed ranges, and compare to IPControl)

3. *Device Options*



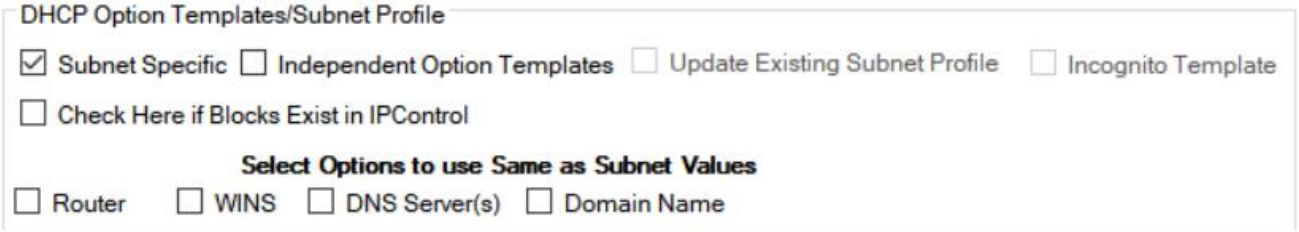
- *Device Type* - The AUTO_BY_DESCRIPTION will try and determine a device type that maps to the IPControl device type. This will be extended to provide a list of values that can be entered to map a device type based on certain words in the description. Currently devices such as Printers, Servers, and Routers are used to set the name. Others are set to Unspecified.
- *Domain Name* - Can be entered for all devices or will be extracted based on the information collected from the configuration file. This is a very complex process since hostnames can have dots, and are not always complete from the configuration files. This version does not query DNS or other files, but will in the future.
- *Create RR's* - True or False - if there is no domain or hostname, the value is automatically switched to false in the logic.
- *Ignore Duplicate Hostname warnings*

4. *Root Block Options*



- *Container Name* - Most likely the top level container
- *Block Type* - should probably be Any
- *Create Reverse Domain* - True or False for the network block.

0. *DHCP Option Templates*



This option, when checked, will create a MySQL SQL scripts that will create the DHCP Option Template(s) and the associated subnet options that were parsed from the original configuration file. This option can be run by itself - or - in conjunction with the Child Blocks export. If the DHCP Option Templates is checked and the Child Blocks option is checked, the Child Blocks DHCP Option Set text field

will be populated with the AUTO_SET_NAME value. This is automatically generated and is set to the subnet address Options Set (e.g. 10.0.0.0/24 Options Set), or in the case of Microsoft DHCP configuration files, the name of the subnet.

*NOTE: This export option will create a DHCP option template for every subnet that has DHCP options (view the subnet tab and the options column). It does not use the "Same as subnet" capabilities inherit in IPControl. Same as subnet options should use the Child Block export only and not specify to create the DHCP Option Templates. In addition, any custom options that are not pre-defined in IPControl should be configured prior to sourcing the SQL file.

Valid options include:

- *Subnet Specific* - This option will create a subnet specific template. A subnet specific template uses the name of the subnet to create the DHCP options and is visible only from the Policies tab within the subnet profile. The name of the subnet (not just the block/cidr) must be correct for this option to work, which is why the AUTO_SET_NAME is specified when any of these options are selected. Additionally, the subnet specific options are defined at the block policy level in IPControl.
- *Independent Option Templates* - Will create a DHCP Option Set that is accessible from the IPControl System / Network Services link. These options do not use the "Same as Subnet" and will specify the option and value specifically.
- *Update Existing Subnet Profile* - Will create a subnet profile update script that will set the default gateway, WINS, DNS Forward Domain, and DNS Servers if they are present in the options of the subnet. A global Option Template should then be used to specify the "Same as Subnet" values.
- *Incognito Template* - Generates the name of the Option set to use the same name as the Incognito template.
- *Check Here if Blocks Exist in IPControl* - Creates an update SQL script to query the existing block names. Typically, the SQL scripts are run PRIOR to importing the child blocks. This option allows the blocks to already exist and simply generates the script to query the block address or name to determine if it exists.
- *Same as Subnet Values* - Will automatically set default option values for the Router, WINS, DNS Server(s), and Domain Name to use the --Same as Subnet-- value.

1. ***The Enforce Unique Export***
   Ensures that any child blocks, pools, or devices that are exported will be unique (e.g. non-duplicates). When this option is turned on, the export utility will flag any duplicates and comment the import line (so administrators can verify and validate data). When this option is off, the export utility will generate the duplicate entries.

Once you have selected the appropriate export file creations and options, click the Create Files button. You will be prompted for a file name to save each selected option (defaults are provided) and can overwrite existing files or use a different name from the default.

Using the CLI's to Import the Created Files

Note: It is always recommended that you verify the data files prior to importing. It is also recommended that you export your existing IPControl database so that you can reload and effectively start from your last saved snapshot if something goes awry.

Exporting the IPControl Database

Use the procedures below to export your IPControl database based on the platform (OS):

Linux/UNIX/Appliance:

*Note: This document will assume that you have used the default installation directories

1. cd to /opt/incontrol/mysql/bin

2. type (without quotes) "./mysqldump -u<username> -p<password> --opt incontrol > <name_of_export_file>

Example: ./mysqldump -utest -ppassword --opt incontrol > db-backup.sql

Windows:

1. cd to Program Files\Diamond IP\Incontrol\mysql\bin
2. Type "mysqldump -u<username> -p<password> --opt incontrol > <name_of_export_file>

Example: ./mysqldump -utest -ppassword --opt incontrol > db-backup.sql

Order of Importing

The order of importing the files created is summarized below. NOTE: These import procedures assume you have already defined your container structure and that any policies such as Block Types, and related policies, have been modified in the import files. If you are importing DNS or DHCP server values, or using the DHCP Option templates, you should ensure you have each of your DNS and/or DHCP servers created prior to the child block importing or sourcing the MySQL SQL scripts.

This document assumes the default values for the various imports and will not cover customer specific options.

1. ImportRootBlock
2. *Source the DHCP Template prior to importing the childblocks - if:

    a. you are using the Subnet Specific Option
    b. You specified the Independent DHCP option templates.

3. ImportChildBlock
4. *Source your update SQL script if specified only after you have imported your child blocks.
5. ImportDevice (if you are using devices and/or want to specify the manual DHCP devices).
6. ImportAddrPool