**NAME**

> ippfind – find internet printing protocol printers

**SYNOPSIS**

> **ippfind** [ *options* ] *regtype*[**,***subtype*][**.***domain***.**] ... [ *expression*
> ... ]
> **ippfind** [ *options* ] *name*[**.***regtype*[**.***domain***.**]] ... [ *expression*
> ... ]
> **ippfind −−help**
> **ippfind −−version**

**DESCRIPTION**

> **ippfind** finds services registered with a DNS server or available through local devices.  Its primary purpose is to find IPP printers and show their URIs, show their current status, or run commands.

> **REGISTRATION TYPES**

>> **ippfind** supports the following registration types:

>> _http._tcp
>>> HyperText Transport Protocol (HTTP, RFC 2616)

>> _https._tcp
>>> Secure HyperText Transport Protocol (HTTPS, RFC 2818)

>> _ipp._tcp
>>> Internet Printing Protocol (IPP, RFC 2911)

>> _ipps._tcp
>>> Secure Internet Printing Protocol (IPPS, draft)

>> _printer._tcp
>>> Line Printer Daemon (LPD, RFC 1179)

> **EXPRESSIONS**

>> **ippfind** supports expressions much like the **find**(1) utility.  However, unlike **find**(1), **ippfind** uses POSIX regular expressions instead of shell filename matching patterns.  If *−−exec*, *−l*, *−−ls*, *−p*, *−−print*, *−−print−name*, *−q*, *−−quiet*, *−s*, or *−x* is not specified, **ippfind** adds *−−print* to print the service URI of anything it finds.  The following expressions are supported:

>> **−d** *regex*

>> **−−domain** *regex*
>>> True if the domain matches the given regular expression.

>> **−−false**
>>> Always false.

>> **−h** *regex*

>> **−−host** *regex*
>>> True is the hostname matches the given regular expression.

>> **−l**

>> **−−ls**  Lists attributes returned by Get-Printer-Attributes for IPP printers and traditional *find* "-ls" output for HTTP URLs.  The result is true if the URI is accessible, false otherwise.

>> **−−local**
>>> True if the service is local to this computer.

>> **−N** *name*

>> **−−literal−name** *name*
>>> True if the service instance name matches the given name.

**−n** *regex*

**−−name** *regex*
> True if the service instance name matches the given regular expression.

**−−path** *regex*
> True if the URI resource path matches the given regular expression.

**−P** *number*[**-***number*]

**−−port** *number*[**-***number*]
> True if the port matches the given number or range.

**−p**

**−−print**
> Prints the URI if the result of previous expressions is true.  The result is always true.

**−q**

**−−quiet**
> Quiet mode - just returns the exit codes below.

**−r**

**−−remote**
> True if the service is not local to this computer.

**−s**

**−−print−name**
> Prints the service instance name if the result of previous expressions is true.  The result is always true.

**−−true**
> Always true.

**−t** *key*

**−−txt** *key*
> True if the TXT record contains the named key.

**−−txt−***key regex*
> True if the TXT record contains the named key and matches the given regular expression.

**−u** *regex*

**−−uri** *regex*
> True if the URI matches the given regular expression.

**−x** *utility* [ *argument ...* ] **;**

**−−exec** *utility* [ *argument ...* ] **;**
> Executes the specified program if the current result is true.  "{foo}" arguments are replaced with the corresponding value - see SUBSTITUTIONS below.

Expressions may also contain modifiers:

**(** *expression* **)**
> Group the result of expressions.

**!** *expression*

**−−not** *expression*
> Unary NOT of the expression.

*expression expression*

*expression* −−**and** *expression*
> Logical AND of expressions.

*expression* −−**or** *expression*
> Logical OR of expressions.

## SUBSTITUTIONS
The substitutions for "{foo}" in −*e* and −−*exec* are:

**{service_domain}**
> Domain name, e.g., "example.com.", "local.", etc.

**{service_hostname}**
> Fully-qualified domain name, e.g., "printer.example.com.", "printer.local.", etc.

**{service_name}**
> Service instance name, e.g., "My Fine Printer".

**{service_port}**
> Port number for server, typically 631 for IPP and 80 for HTTP.

**{service_regtype}**
> DNS-SD registration type, e.g., "_ipp._tcp", "_http._tcp", etc.

**{service_scheme}**
> URI scheme for DNS-SD registration type, e.g., "ipp", "http", etc.

**{}**

**{service_uri}**
> URI for service, e.g., "ipp://printer.local./ipp/print", "http://printer.local./", etc.

**{txt_*key*}**
> Value of TXT record *key* (lowercase).

## OPTIONS
**ippfind** supports the following options:

**−−help**
> Show program help.

**−−version**
> Show program version.

**−4**    Use IPv4 when listing.

**−6**    Use IPv6 when listing.

**−T** *seconds*
> Specify find timeout in seconds.  If 1 or less, **ippfind** stops as soon as it thinks it has found everything.  The default timeout is 1 second.

**−V** *version*
> Specifies the IPP version when listing.  Supported values are "1.1", "2.0", "2.1", and "2.2".

## EXIT STATUS
**ippfind** returns 0 if the result for all processed expressions is true, 1 if the result of any processed expression is false, 2 if browsing or any query or resolution failed, 3 if an undefined option or invalid expression was specified, and 4 if it ran out of memory.

## ENVIRONMENT
When executing a program, **ippfind** sets the following environment variables for the matching service registration:

**IPPFIND_SERVICE_DOMAIN**
> Domain name, e.g., "example.com.", "local.", etc.

**IPPFIND_SERVICE_HOSTNAME**
    Fully-qualified domain name, e.g., "printer.example.com.", "printer.local.", etc.

**IPPFIND_SERVICE_NAME**
    Service instance name, e.g., "My Fine Printer".

**IPPFIND_SERVICE_PORT**
    Port number for server, typically 631 for IPP and 80 for HTTP.

**IPPFIND_SERVICE_REGTYPE**
    DNS-SD registration type, e.g., "_ipp._tcp", "_http._tcp", etc.

**IPPFIND_SERVICE_SCHEME**
    URI scheme for DNS-SD registration type, e.g., "ipp", "http", etc.

**IPPFIND_SERVICE_URI**
    URI for service, e.g., "ipp://printer.local./ipp/print", "http://printer.local./", etc.

**IPPFIND_TXT_***KEY*
    Values of TXT record *KEY* (uppercase).

# EXAMPLES
To show the status of all registered IPP printers on your network, run:

    ippfind −−ls

Similarly, to send a PostScript test page to every PostScript printer, run:

    ippfind −−txt−pdl application/postscript −−exec ipptool
      −f onepage−letter.ps '{}' print−job.test \;

# SEE ALSO
**ipptool**(1)

# COPYRIGHT
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