

1. SSDP

A proxy server will implement SSDP by performing both an announcement and response to requests of SSDP devices and services. The proxy server will need to send multiple multicast UDP HTTP packets for the root device and Print Service as well as any additional devices and services provided by the Peripheral.

1.1. SSDP Search Request

The proxy server will need to listen on port 1900 for SSDP M-SEARCH requests with an ST value of:

1. **ssdp:all**
2. **psi:rootdevice**
3. **urn:www.pwg.org/schemas/ps/0.95:service:pwg-psips:95**
4. **urn:www.pwg.org/schemas/ps/0.95:device:pwg-psitd:95**

The following is an example of the preferred request:

```
M-SEARCH * HTTP/1.1
HOST: 239.255.255.250:1900
MAN: "ssdp:discover"
MX: seconds to delay response
ST: urn:www.pwg.org/schemas/ps/0.95:service:pwg-psips:95
```

ST: Search Target, this is object of the discovery request, one of the four values listed above (e.g., ssdp:all, etc.)

HOST: This is the SSDP multicast address

MAN: Description of packet type

MX: Wait these few seconds and then send response

When the proxy server receives the above packet, it will need to respond with one or more unicast packets based on the type of request (ST value):

```
HTTP/1.1 200 OK
CACHE-CONTROL: max-age = seconds until advertisement
expires Initially 30 minutes???
EXT:
LOCATION: http://<hostname>:3700/psi/0.95
SERVER: OS/version PSI/0.95 product/version
ST: urn:www.pwg.org/schemas/ps/0.95:service:pwg-psips
USN: advertisement UUID
```

EXT: required by HTTP – not used with SSDP

SERVER: informational

LOCATION: This is the URL to request the QueryEndpointsInterface endpoint

This example is included for compatibility it is not the recommended request

```
M-SEARCH * HTTP/1.1
  HOST: 239.255.255.250:1900
  MAN: "ssdp:discover"
  MX: seconds to delay response
  ST: psi:rootdevice or ssdp:all
```

When the proxy server receives the above packet, it will need to respond with one or more unicast packets based on the type of request (ST value):

```
HTTP/1.1 200 OK
  CACHE-CONTROL: max-age = seconds until advertisement
  expires Initially 30 minutes???
  EXT:
  LOCATION: http://<hostname>:3700/psi/0.95/upnp-dev
  SERVER: OS/version PSI/0.95 product/version
  ST: urn:www.pwg.org/schemas/ps/0.95:service:pwg-psips
  USN: advertisement UUID
```

1.2. SSDP Notifies

```
NOTIFY * HTTP/1.1
HOST: 239.255.255.250:1900
CACHE-CONTROL: max-age = seconds until advertisement
expires
LOCATION: http://<hostname>:3700/psi/0.95
NT: urn:www.pwg.org/schemas/ps/0.95:service:pwg-psips:95
NTS: ssdp:alive
SERVER: OS/version PSI/0.95 product/version
USN: uuid:mac-addr::
:urn:www.pwg.org/schemas/ps/0.95:service:pwg-psips:95
```

```
NOTIFY * HTTP/1.1
HOST: 239.255.255.250:1900
CACHE-CONTROL: max-age = seconds until advertisement
expires
LOCATION: http://<hostname>:3700/psi/0.95
NT: urn:www.pwg.org/schemas/ps/0.95:device:pwg-psitd:95
NTS: ssdp:alive
SERVER: OS/version PSI/0.95 product/version
USN: uuid:mac-addr::
urn:www.pwg.org/schemas/ps/0.95:service:pwg-psitd:95
```

```
NOTIFY * HTTP/1.1
HOST: 239.255.255.250:1900
CACHE-CONTROL: max-age = seconds until advertisement
expires
LOCATION: http://<hostname>:3700/psi/0.95/upnp-dev
NT: psi:rootdevice
NTS: ssdp:alive
SERVER: OS/version PSI/0.95 product/version
USN: uuid:mac-addr::
urn:www.pwg.org/schemas/ps/0.95:service:pwg-psitd:95
```