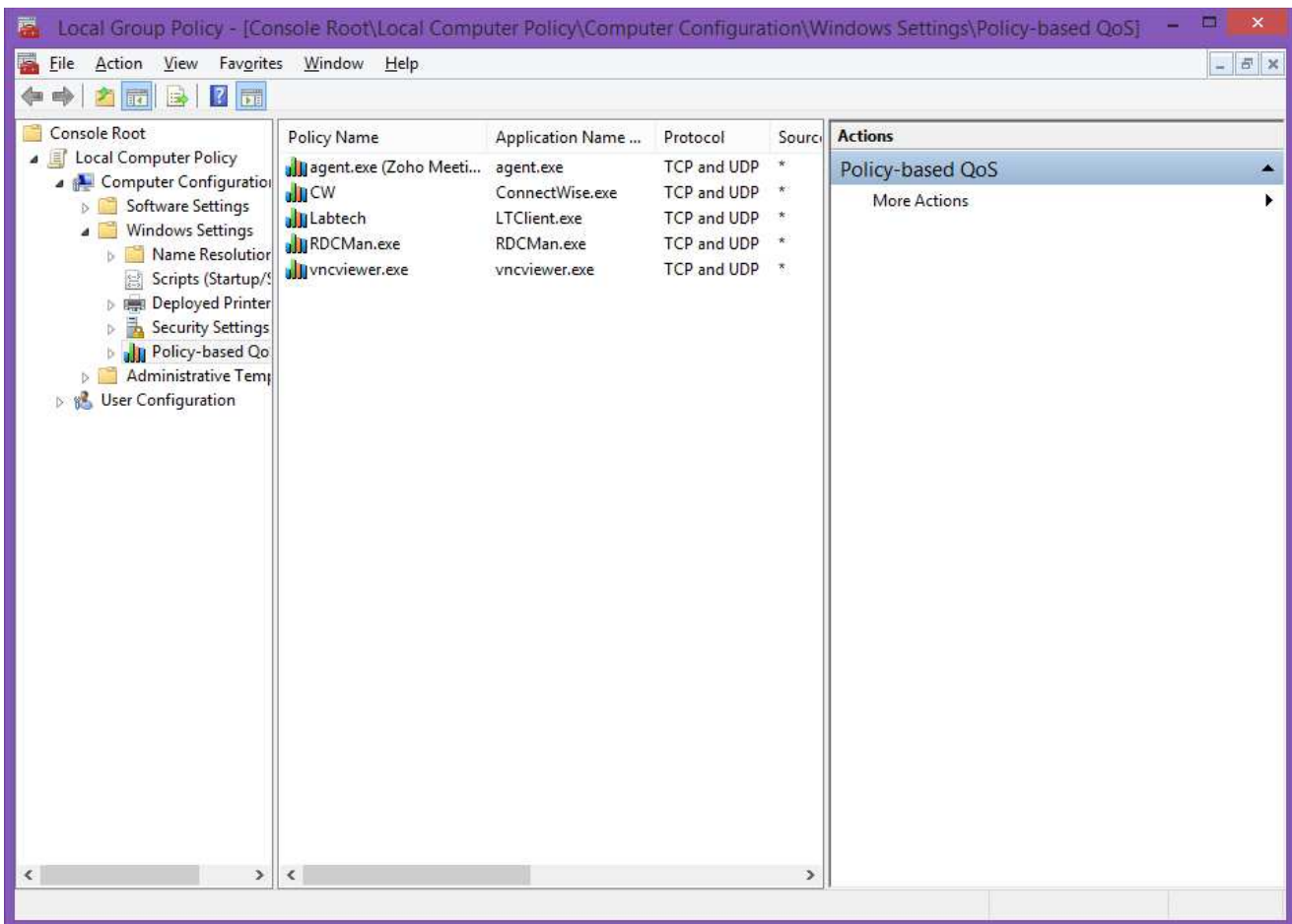


# Using QoS Within Microsoft Windows

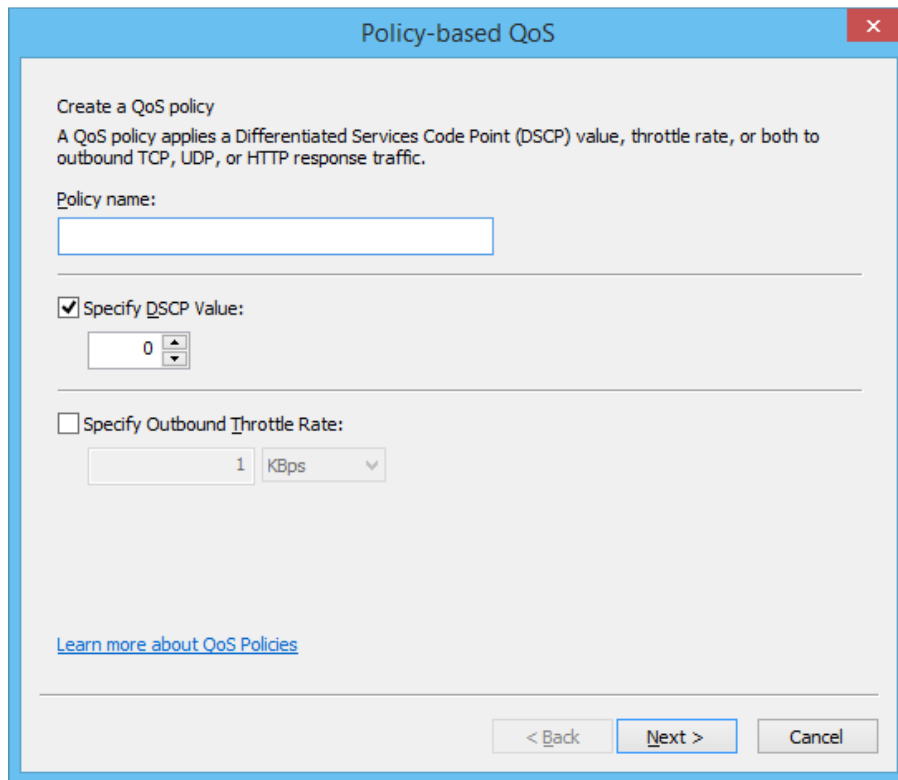
Jonathan E. Brickman, 8/19/2014

Microsoft Windows has QoS, prioritization, within the OS, which can be used to advantage. I have found this to help quite a lot when the need is to keep tenuous VNC connections and beefy applications running as well as possible.

1. Load up MMC.exe.
2. Open the File menu
3. Choose Add/Remove Snap-In.
4. Click Group Policy Object Editor on the left.
5. Click Add.
6. Click Finish.
7. Click OK.
8. Open up Local Computer Policy, Computer Configuration, Windows Settings, Policy-based QoS. You'll see the following, with the policy list in the middle being blank.



9. Right-click on Policy-based QoS, and choose Create new policy. Set a name, and then set the DSCP value:



The DSCP value is the priority level for the policy. The range is zero through 63. Here is one common DSCP value set:

- 0.....General Traffic, unprioritized
- 10.....Backups, file transfers, non-business applications
- 25.....Mission-critical data, including SQL, video streaming
- 34.....Video conferencing
- 46.....VoIP

Another set, not quite the same, standardized within the WMM wifi standard:

- 8-23.....Background (BK)
- 24-31, 0-7.....Best effort (BE)
- 32-47.....Video (VI)
- 48-63.....Voice (VO)

The above are far from a coherent standard everywhere; one can even find lists which peak at 30. For my needs within PCs, I have been setting my critical apps at 31 and not bothering with anything else.

And it is needful to be conservative. If you QoS some things too high, Windows won't be able to do background things which keep it running...like, say, the Windows desktop 😊

10. At this point you need to decide on the type of QoS policy you are creating. You create them to work by TCP/UDP port for all applications, for application binaries of specific names, and for HTTP/HTTPS URLs.

Policy-based QoS

This QoS policy applies to:

- All applications
- Only applications with this executable name:  
  
Example: application.exe or %ProgramFiles%\application.exe
- Only HTTP server applications responding to requests for this URL:  
  Include subdirectories and files  
Example: http://myhost/training/ or https://\*/training/  
Example of non-standard TCP port: http://myhost:8080/training/ or https://myhost:\*/training/

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11. You may now choose IP address(es) to which the policy applies.

Policy-based QoS

Specify the source and destination IP addresses.  
A QoS policy can be applied to outbound traffic that is from a source or to a destination IP (IPv4 or IPv6) address or prefix. For HTTP response traffic, the destination IP address or prefix denotes the client(s) that issued the HTTP request.

This QoS policy applies to:

- Any source IP address
- Only for the following source IP address or prefix:

This QoS policy applies to:

- Any destination IP address
- Only for the following destination IP address or prefix:

Example for a host address: 1.2.3.4 or 3ffe:ffff::1  
Example for an address prefix: 192.168.1.0/24 or fe80::1234/48

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12. And then TCP and/or UDP ports to which the policy applies.

Policy-based QoS

Specify the protocol and port numbers.  
A QoS policy can be applied to outbound traffic using a specific protocol, a source port number or range, or a destination port number or range.

Select the protocol this QoS policy applies to:

TCP

Specify the source port number:

From any source port

From this source port number or range:

Example for a port: 443  
Example for a port range: 137:139

Specify the destination port number:

To any destination port

To this destination port number or range:

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And then you're done with that policy, and can create as many as desired.