# GVP HSG Pages

Detailed Studies of GVP Media Server Behavior on Linux

5/4/2025

# Contents

# Detailed Studies of GVP Media Server Behavior on Linux

Because MP3 16kbps produces better results than 32kbps on Windows, Linux tests focused on MP3 16kpbs testing profiles. Also based on previous results on Windows, we chose two typical Hardware Profiles for Linux testing: Hardware Profile 1 for physical server testing, and Hardware Profile 4 with Virtual Machine Profile 4 for virtual machine environment testing.

## Parameter Adjustments

These adjustments achieve higher port capacity:

| Parameter | Default Value | Adjusted Value |
|---|---|---|
| `mpc.recordnumparallelpost` | 30 | 300 |
| `mpc.recordpostretrybackoff` | 120000 | 15000 |
| `mpc.recordpostretrycount` | 3 | 1 |
| `mpc.mediamgr.recordwritetimeinterval` | 1000 | 10000 |
| `fm.http_proxy` | (empty) | (squid bypassed) |

## Comparisons with Windows

### Physical Server on Single Hex Core

These tests use Software Profile 1a on Hardware Profile 1 for a physical server. Here are three graphs illustrating overall system CPU usage, MCP CPU usage and memory usage:
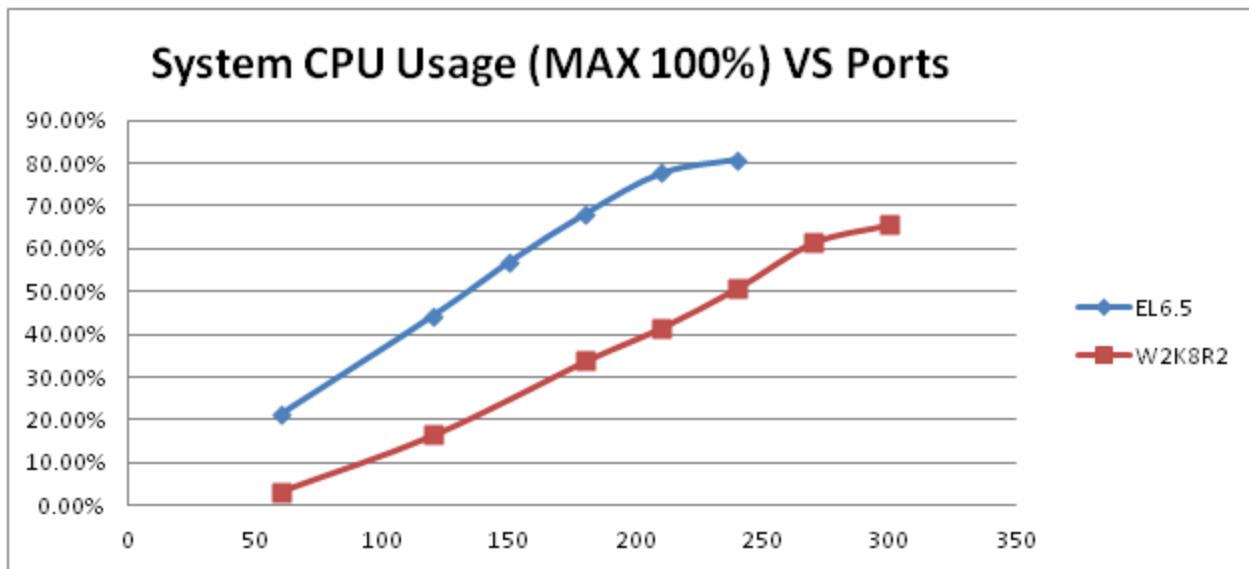
**Figure 73: Comparison of System CPU Usage on a physical server, MP3 16kbps without encryption, RH EL 6.5 vs. Windows 2008 R2**
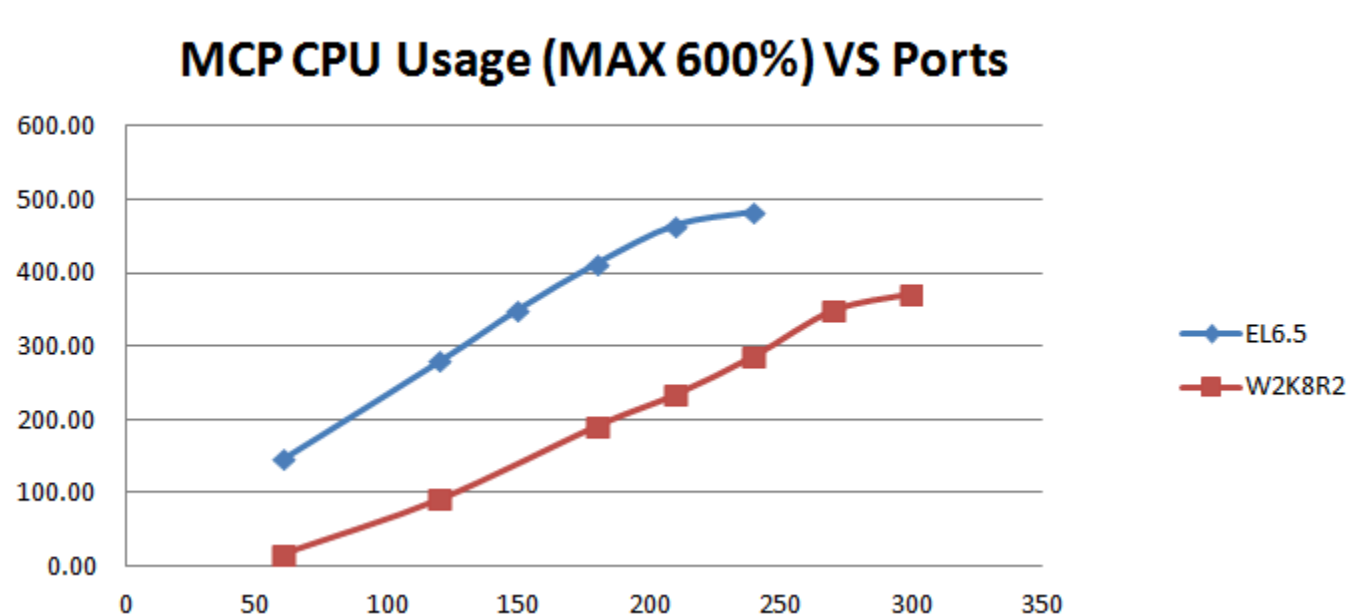


**Figure 74: Comparison of MCP CPU Usage on a physical server, MP3 16kbps without encryption, RH EL 6.5 vs. Windows 2008 R2**
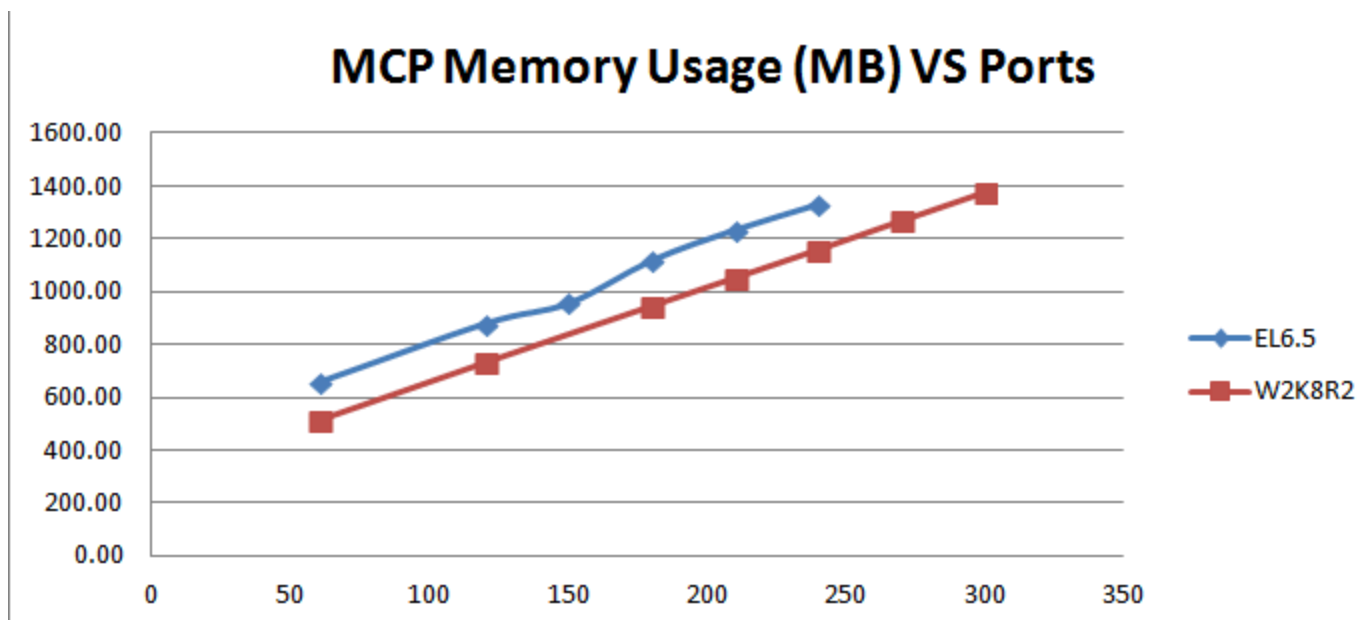
## MCP Memory Usage (MB) VS Ports

**Figure 75: Comparison of MCP Memory Usage on a physical server, MP3 16kbps without encryption, RH EL 6.5 vs. Windows 2008 R2**

Linux uses more resources (CPU, memory etc) than Windows, and so lower capacity is achieved on Linux with a 37.5% reduction (150 vs. 240) for preferred ports and a 22.2% reduction (210 vs. 270) for peak ports.

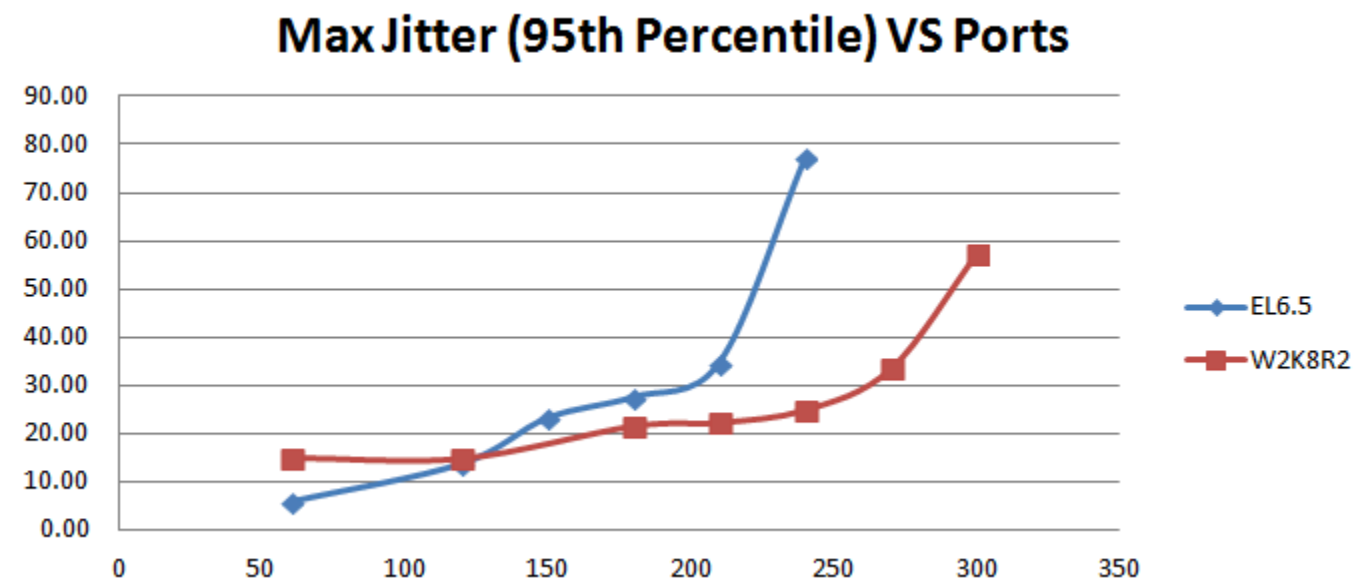The two graphs below compare audio quality in terms of max jitter and max delta:

## Max Jitter (95th Percentile) VS Ports

**Figure 76: Comparison of Max Jitter on A physical server, MP3 16kbps without encryption, RH EL 6.5 vs. Windows 2008 R2**
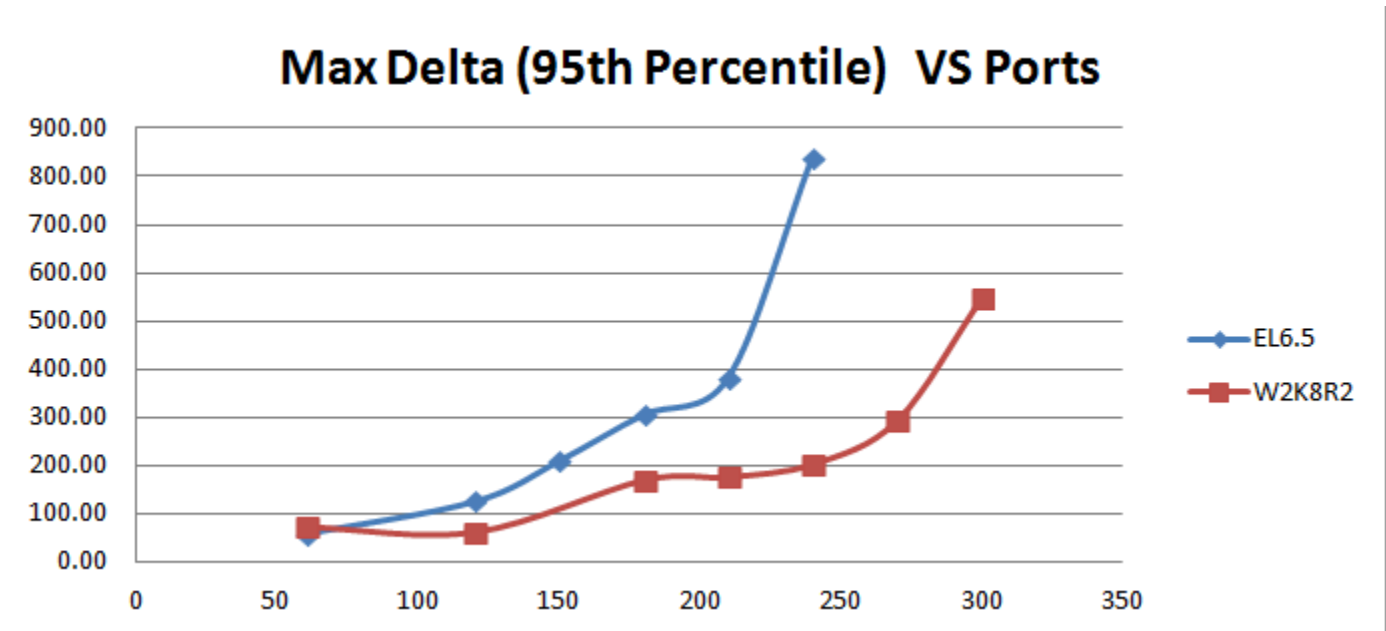
**Figure 77: Comparison of Max Delta on A physical server, MP3 16kbps without encryption, RH EL 6.5 vs. Windows 2008 R2**

Note that Max Jitter is somewhat close between Windows and Linux. But Linux has a lower value at lower ports and a slightly higher value on higher ports. The Max Delta shows that Linux has the higher value even though it is nearly the same for both Windows and Linux at lower ports.

System disk IOPS is illustrated in this table for Linux EL 6.5:

**Figure 78: System Disk IOPS on a physical server of single hex core on EL 6.5, MP3 only 16 kbps**

| Total | Reads | Writes | |
|---|---|---|---|
| **Ports** | **Disk IOPS Physical Server** | | |
| | 60 | 12.75 | 0.000 | 12.754 |
| 120 | 23.12 | 0.000 | 23.117 |
| 150 | 27.65 | 0.000 | 27.645 |
| 180 | 32.15 | 0.000 | 32.150 |
| 210 | 36.73 | 0.000 | 36.729 |
| 240 | 41.57 | 0.000 | 41.568 |

The graph below compares System Disk IOPS performance on Linux and Windows physical servers:
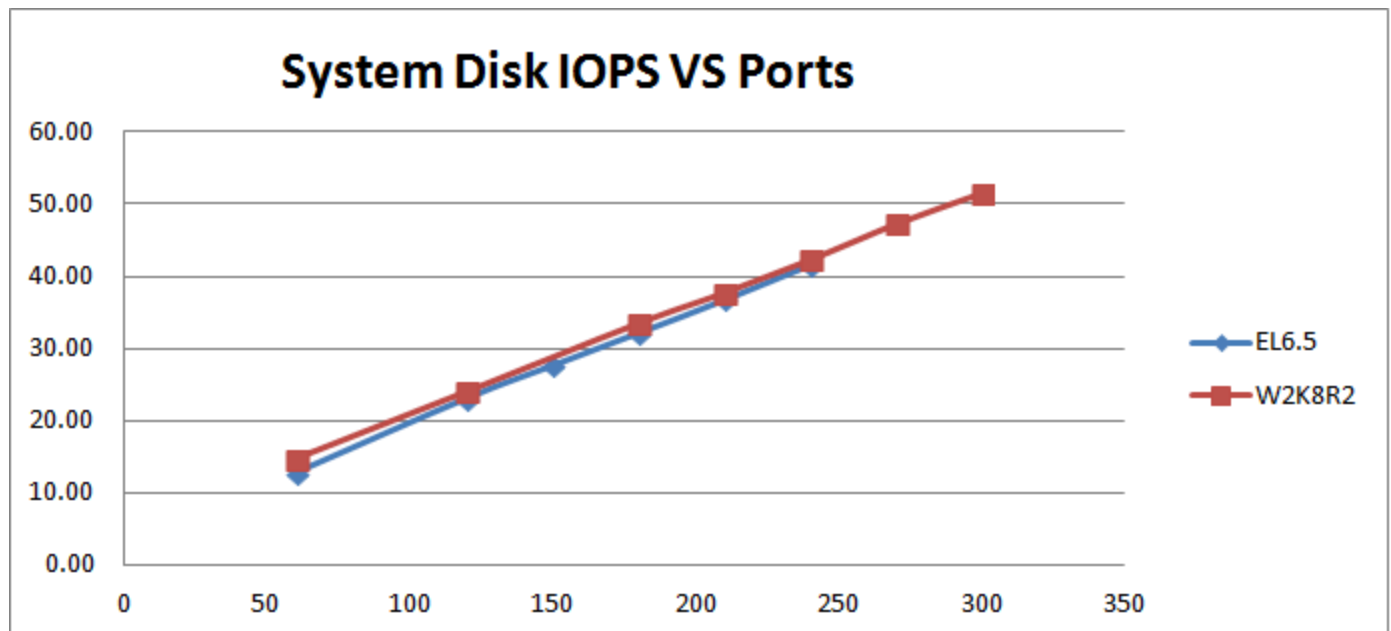
**Figure 79: Comparison of System Disk IOPS on a Physical Server, MP3 16kbps without encryption, RH EL 6.5 vs. Windows 2008 R2**

Note that IOPS on both Windows and Linux are similar; and so Disk IOPS is related to the test profile, and irrelevant to a particular OS. So the IOPS numbers from the previous Windows testing can be used generally for both Windows and Linux.

## VMs on Dual Hex Cores Server

These tests use SW Profile 1a on HW Profile 1 with VM Profile 4 for virtual machine environment testing. Below are three graphs illustrating overall system CPU usage, MCP CPU usage and memory usage:
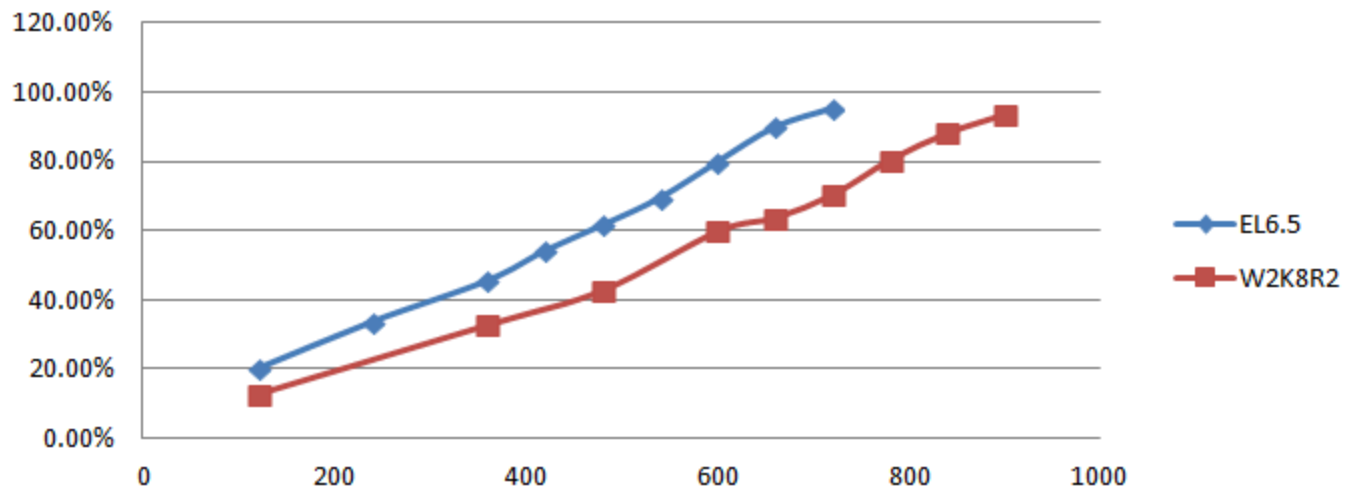
**Figure 80: Comparison of System CPU Usage on VM env, MP3 16kbps without encryption, RH EL 6.5 vs. Windows 2008 R2**

You can observe the same trend as with the physical server results in the previous section Linux consumes more CPU resources. Below are two graphs of audio quality-related metrics that show the same thing.
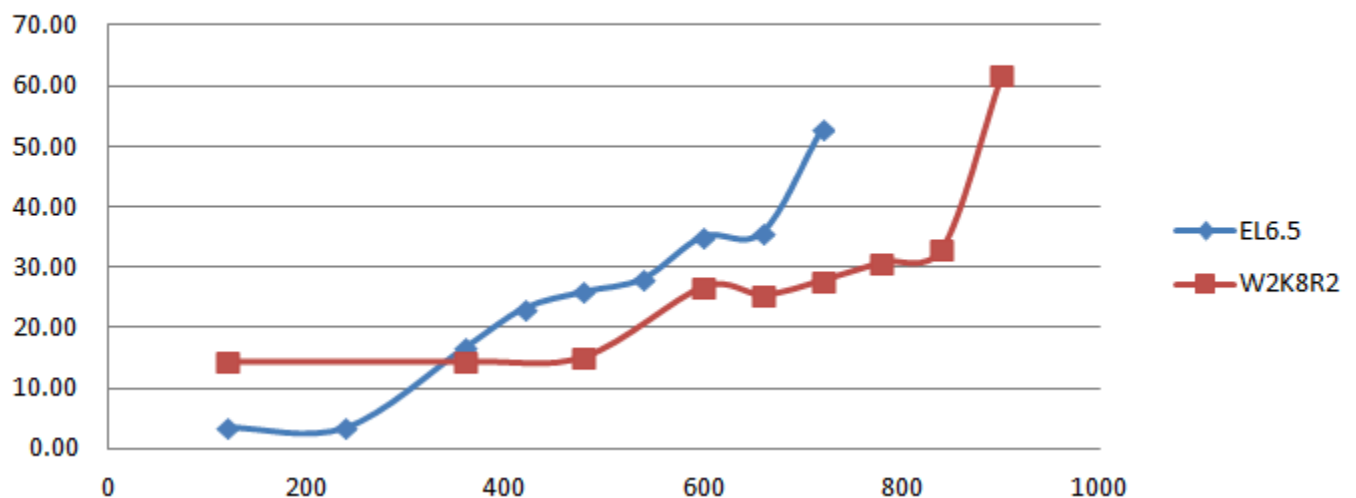


**Figure 81: Comparison of Max Jitter on VM env, MP3 16kbps without encryption, RH EL 6.5 vs. Win 2008 R2**
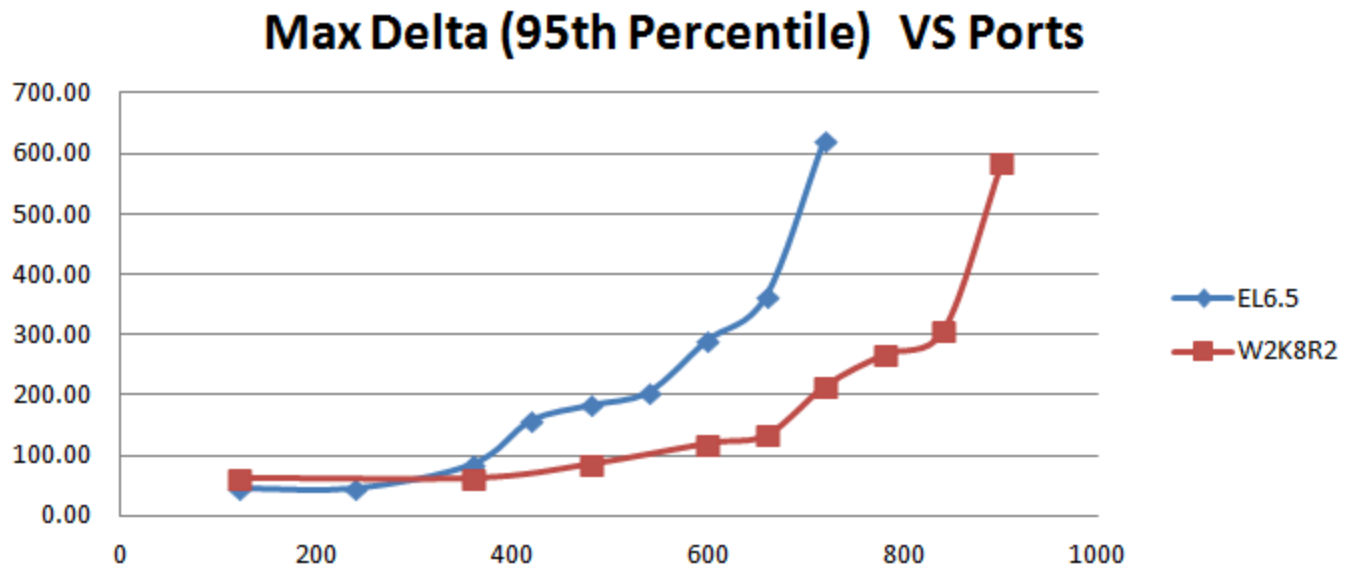
**Figure 82: Comparison of Max Delta on VM env, MP3 16kbps without encryption, RH EL 6.5 vs. Windows 2008 R2**

As observed on the above graphs, 540 ports are recommended and preferred. This is a 25% reduction compared with Windows 2008 R2 (540 vs. 720). Peak capacity would be 660 ports, which is a 21.4% reduction compared to Windows 2008 R2 (660 vs. 840). Similar reductions were also observed on physical server tests in the previous section.

The disk IOPS is displayed here:

**Figure 83: Disk IOPS from overall 6 VMs of dual hex core, MP3 only 16 kbps, on EL 6.5**

| Ports | Overall 6 VMs Disk IOPS | | | SSD Drive Disk IOPS | | |
|---|---|---|---|---|---|---|
| | Total | Reads | Writes | Total | Reads | Writes |
| 120 | 28.17 | 0.00 | 28.17 | 24.011 | 0.000 | 24.011 |
| 240 | 49.78 | 0.00 | 49.78 | 44.590 | 0.000 | 44.590 |
| 360 | 71.11 | 0.00 | 71.11 | 65.747 | 0.000 | 65.747 |
| 420 | 81.59 | 0.00 | 81.59 | 76.058 | 0.000 | 76.058 |
| 480 | 92.37 | 0.00 | 92.37 | 86.767 | 0.000 | 86.767 |
| 540 | 102.96 | 0.00 | 102.96 | 97.305 | 0.000 | 97.305 |
| 600 | 112.33 | 0.00 | 112.33 | 106.727 | 0.000 | 106.727 |
| 660 | 122.06 | 0.00 | 122.06 | 116.440 | 0.000 | 116.440 |
| 720 | 130.82 | 0.00 | 130.82 | 125.121 | 0.000 | 125.121 |

The graph below compares the above table with the corresponding table for Windows, for the same MP3-only 16 kbps profile:
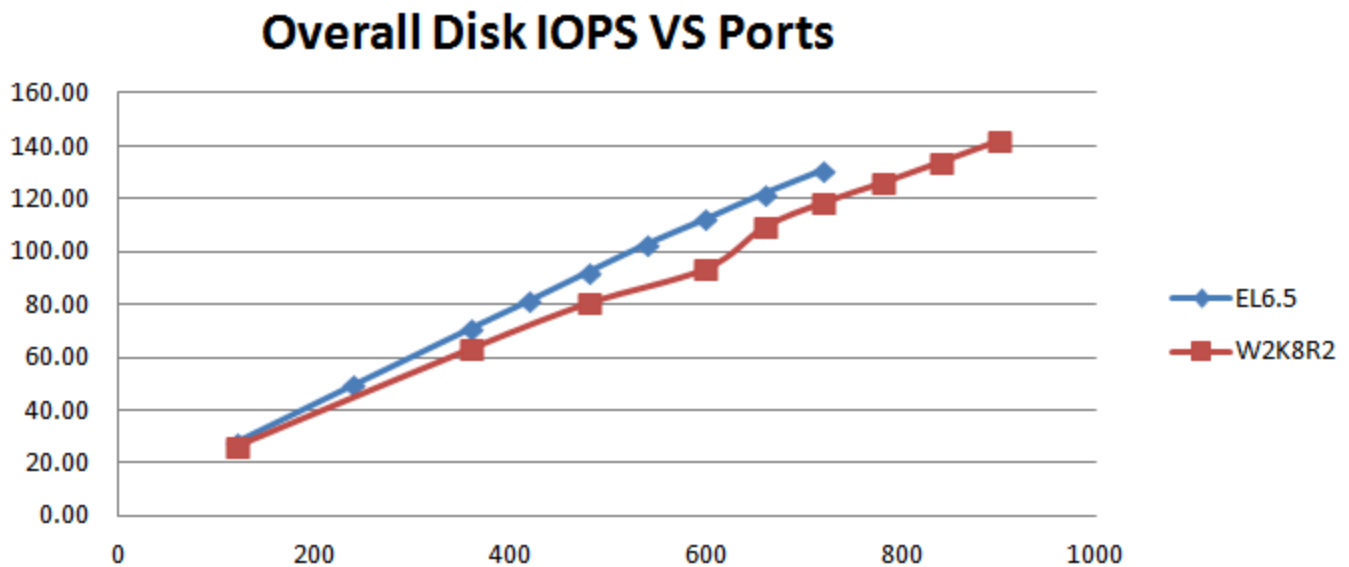
## Overall Disk IOPS VS Ports

**Figure 84: Comparison of System Disk IOPS on VM env, MP3 16kbps without encryption, RH EL 6.5 vs. Windows 2008 R2**

Note that disk IOPS results for Linux and Windows are very close, and corresponds to the results on a physical server in the previous section.

The data throughput for this MP3-only profile on EL 6.5 is illustrated below:

**Figure 85: Data throughputs from overall 6 VMs of dual hex core, MP3 only 16 kbps, on EL 6.5**

| Total KB/sec | Read KB/sec | Write KB/sec | Total KB/sec | Read KB/sec | Write KB/sec | |
|---|---|---|---|---|---|---|
| **Ports** | **Overall Disk KB/sec** | | | **SSD Drive Disk KB/sec** | | |
| | 120 | 417.70 | 0.00 | 417.70 | 389.474 | 0.000 389.474 |
| 240 | 788.58 | 0.00 | 788.58 | 751.418 | 0.000 | 751.418 |
| 360 | 1145.77 | 0.00 | 1145.77 | 1104.237 | 0.000 | 1104.237 |
| 420 | 1317.38 | 0.00 | 1317.38 | 1274.484 | 0.000 | 1274.484 |
| 480 | 1496.20 | 0.00 | 1496.20 | 1451.114 | 0.000 | 1451.114 |
| 540 | 1677.83 | 0.00 | 1677.83 | 1627.798 | 0.000 | 1627.798 |
| 600 | 1843.65 | 0.00 | 1843.65 | 1795.706 | 0.000 | 1795.706 |
| 660 | 2023.36 | 0.00 | 2023.36 | 1974.070 | 0.000 | 1974.070 |
| 720 | 2193.62 | 0.00 | 2193.62 | 2142.769 | 0.000 | 2142.769 |

## Comparing MP3 only and MP3 + WAV

### Physical Server on Single Hex Core

This test uses SW Profile 2a (MP3 16 kbps + wav without encryption) on HW Profile 1 for a physical server, compared which SW Profile 1a (MP3 only 16 kbps without encryption) is used as a baseline for comparison. Below are three graphs illustrating overall system CPU usage, MCP CPU usage and memory usage:
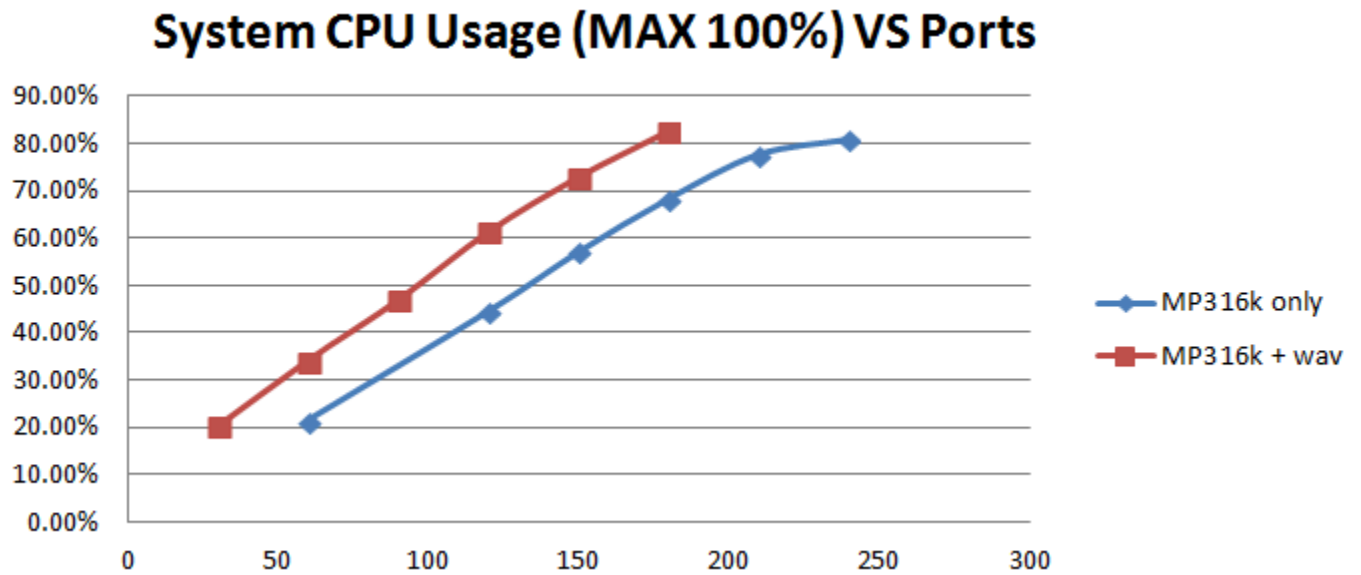


**Figure 86: Comparison of System CPU Usage on a Physical Server, MP3 + wav vs. MP3 only, on RH EL 6.5**
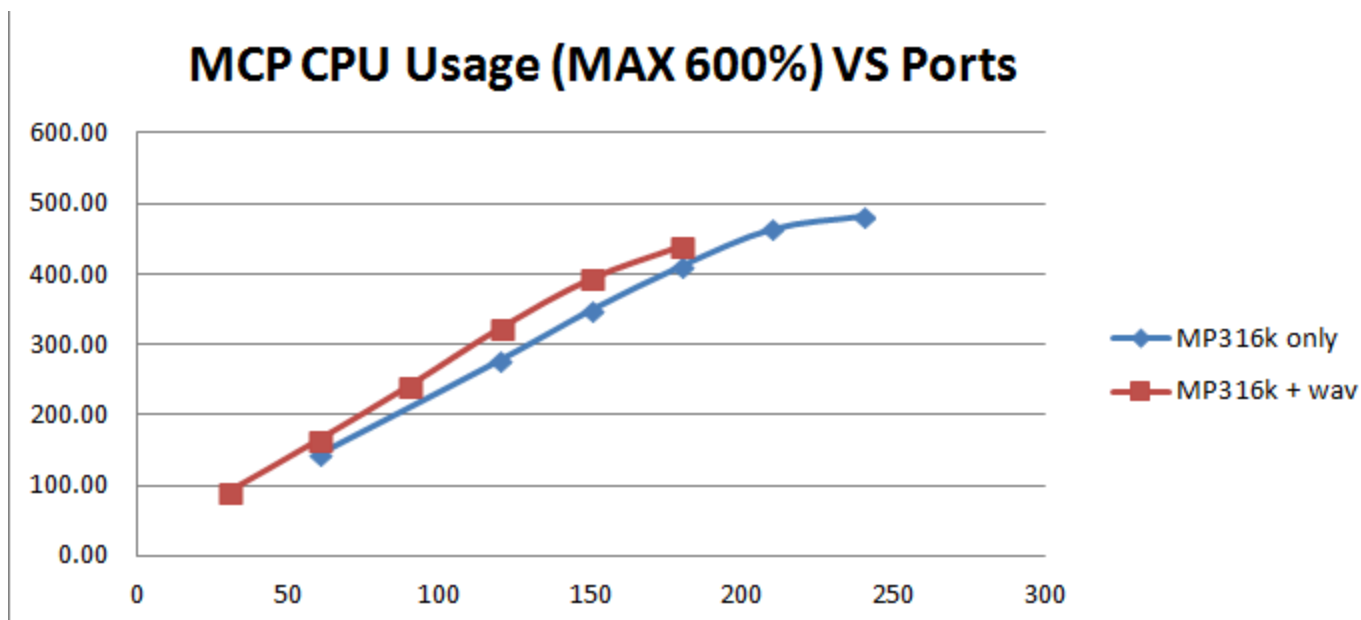
## MCP CPU Usage (MAX 600%) VS Ports

Figure 87: Comparison of MCP CPU Usage on a Physical Server, MP3 + wav vs. MP3 only, on RH EL 6.5

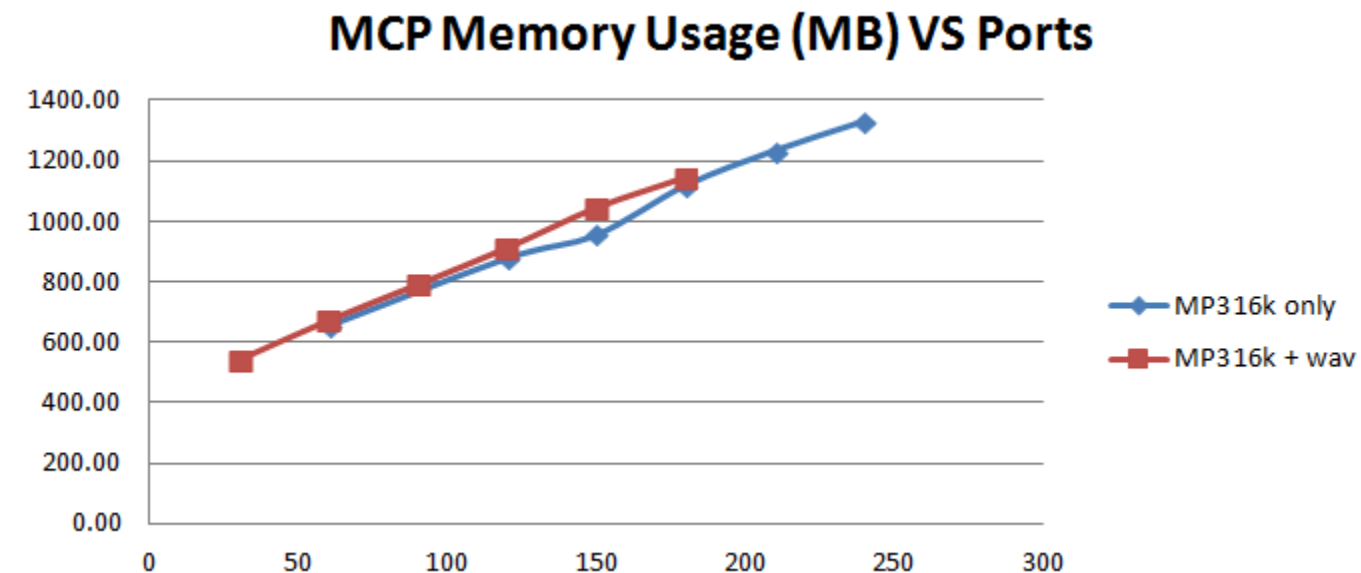## MCP Memory Usage (MB) VS Ports

Figure 88: Comparison of MCP Memory Usage on a Physical Server, MP3 + wav vs. MP3 only, on RH EL 6.5

The comparison shows apparent higher MCP usage and overall system CPU usage for the MP3 + wav profile. However, the MCP memory usage is not significantly higher.

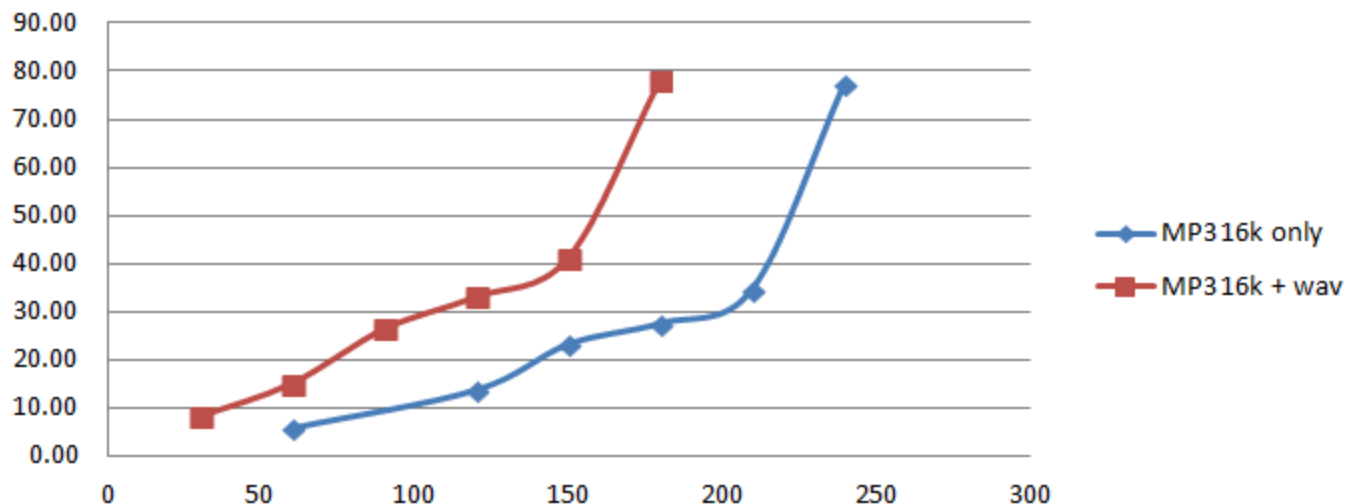The audio quality metric also shows some differences, below:

**Figure 89: Comparison of Max Jitter on a Physical Server, MP3 + wav vs. MP3 only, on RH EL 6.5**
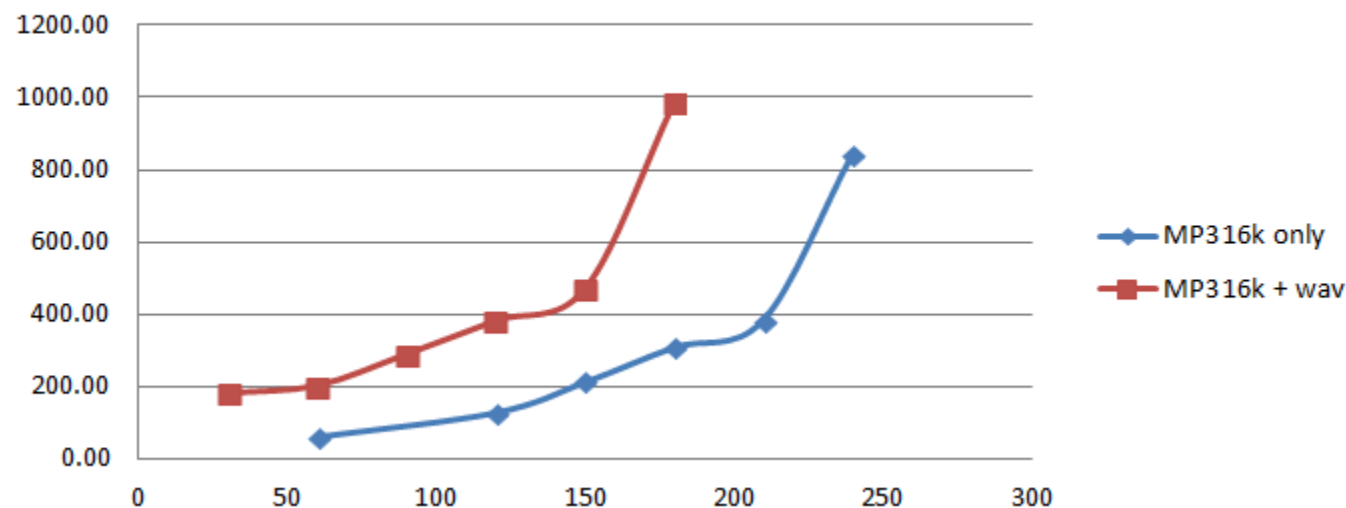


**Figure 90: Comparison of Max Delta on a Physical Server, MP3 + wav vs. MP3 only, on RH EL 6.5**

Note that lower capacities would be achieved for the MP3 + WAV profile. 90 ports would be recommended and preferred, a 40% reduction (90 vs. 150) compared with the MP3-only profile, while 150 ports would be peak capacity a 28.6% reduction (150 vs. 210).

System disk IOPS is listed in the following table:

**Figure 91: System Disk IOPS on a physical server of single hex core on EL 6.5, MP3 16 kbps + wav**

| Ports | Physical Server Disk IOPS | | |
|---|---|---|---|
| | Total | Reads | Writes |
| 30 | 15.18 | 0.008 | 15.17 |
| 60 | 26.70 | 0.000 | 26.70 |
| 90 | 35.53 | 0.003 | 35.53 |
| 120 | 46.04 | 0.002 | 46.04 |
| 150 | 55.44 | 0.000 | 55.44 |
| 180 | 65.50 | 1.520 | 63.98 |

The graph below compares disk IOPS with the MP3-only profile:
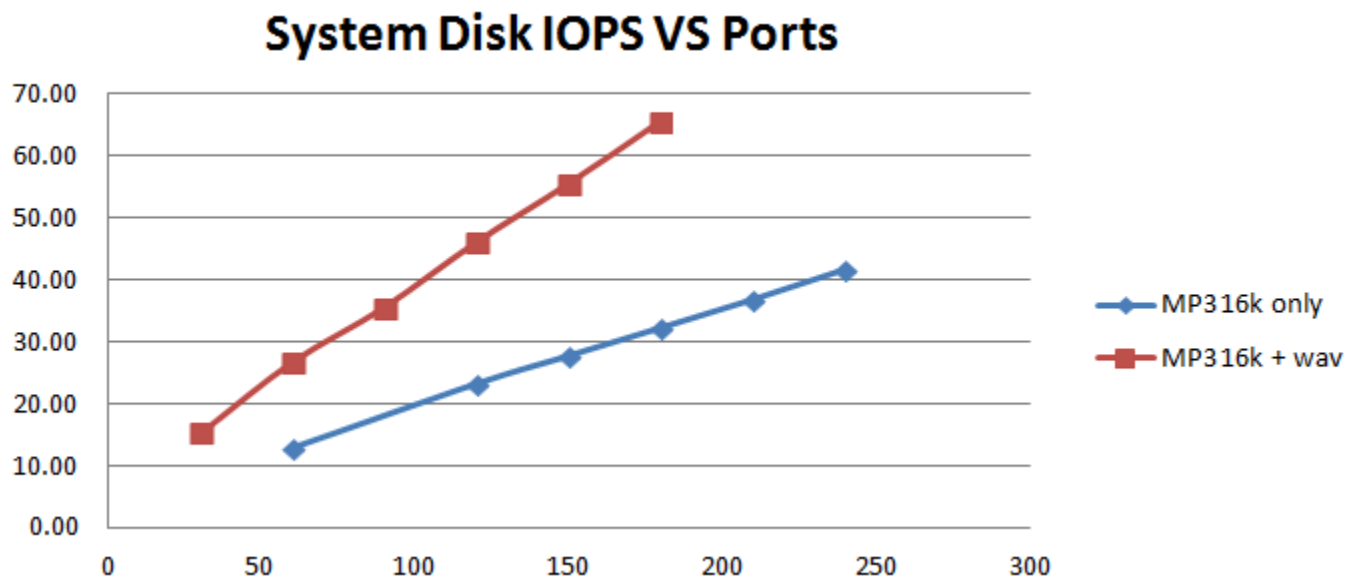


**Figure 92: Comparison of System Disk IOPS on a Physical Server, MP3 + wav vs. MP3 only, on RH EL 6.5**

The MP3-only profile is almost double the disk IOPS for MP3 + wav profile, as observed in the Windows testing.

## VMs on Dual Hex Cores Server

A similar trend of overall CPU usage occurs in the Virtual Machine environment.
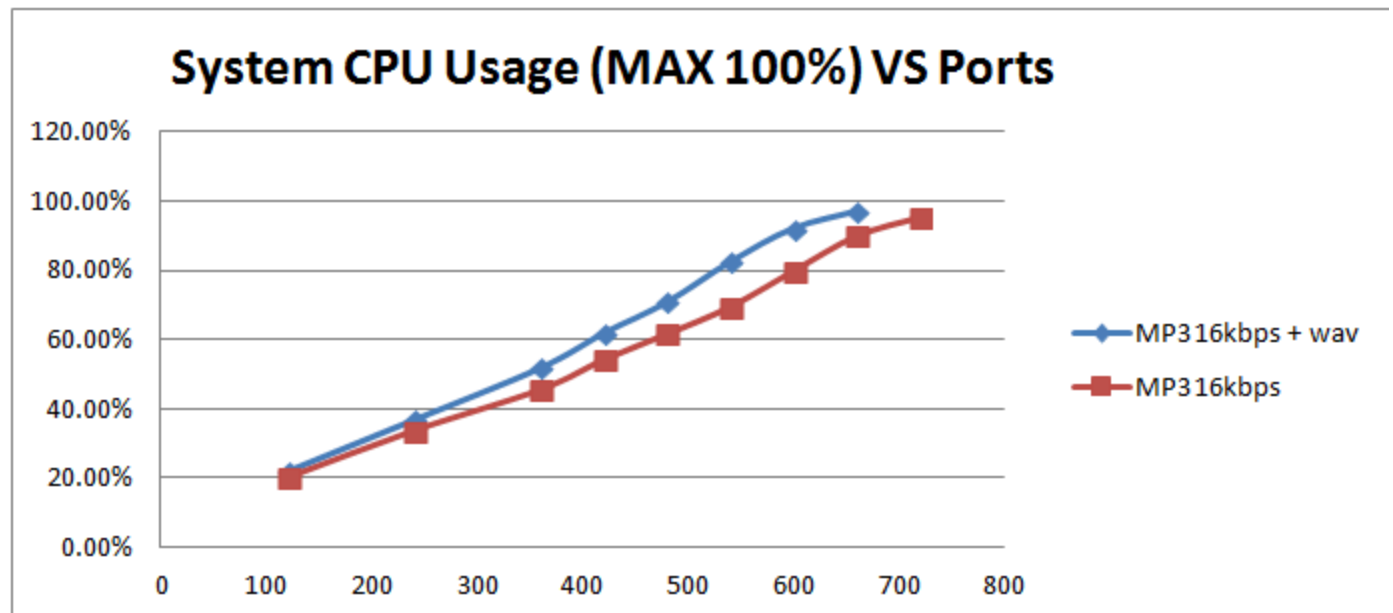
## System CPU Usage (MAX 100%) VS Ports

**Figure 93: Comparison of System CPU Usage on VM env, MP3 + wav vs. MP3 only, on RH EL 6.5**

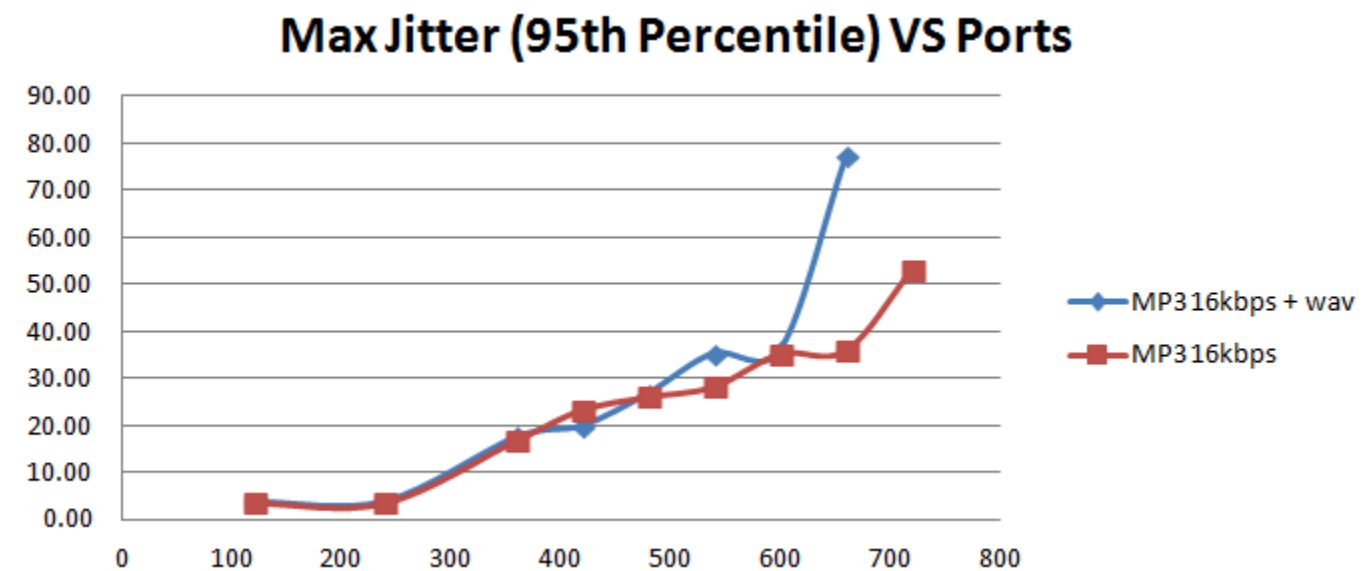The audio quality metrics shows similar trends as on a physical server.

## Max Jitter (95th Percentile) VS Ports

**Figure 94: Comparison of Max Jitter on VM env, MP3 + wav vs. MP3 only, on RH EL 6.5**
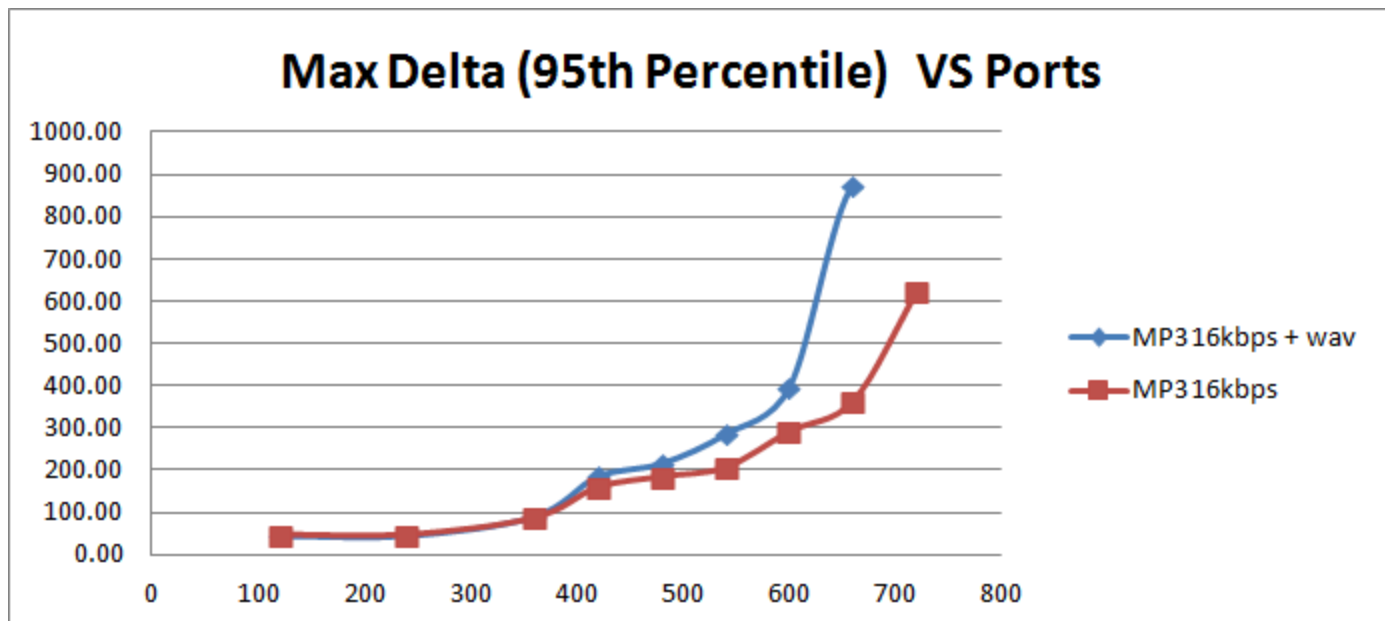
**Figure 95: Comparison of Max Delta on VM env, MP3 + wav vs. MP3 only, on RH EL 6.5**

480 ports are recommended and preferred for this MP3 + wav profile, an 11.1% reduction (480 vs. 540 for MP3 only); peak would be 660, a 9.1% reduction (600 vs. 660 for MP3 only).

Below is a table to illustrate overall 6 VMs disk IOPS:

**Figure 96: System Disk IOPS on a VM environment of dual hex cores on EL 6.5, MP3 16 kbps + wav**

| Ports | Overall 6 VMs Disk IOPS | | | SSD Drive Disk IOPS | | |
|---|---|---|---|---|---|---|
| | Total | Reads | Writes | Total | Reads | Writes |
| 120 | 52.99 | 0.00 | 52.99 | 48.728 | 0.000 | 48.728 |
| 240 | 100.50 | 0.00 | 100.50 | 95.174 | 0.000 | 95.174 |
| 360 | 144.34 | 0.00 | 144.34 | 138.864 | 0.000 | 138.864 |
| 420 | 164.65 | 0.00 | 164.65 | 158.979 | 0.000 | 158.979 |
| 480 | 183.45 | 0.00 | 183.45 | 177.711 | 0.000 | 177.711 |
| 540 | 207.27 | 0.00 | 207.27 | 201.564 | 0.000 | 201.564 |
| 600 | 224.97 | 0.00 | 224.97 | 219.197 | 0.000 | 219.197 |
| 660 | 275.49 | 0.00 | 275.49 | 269.584 | 0.000 | 269.584 |
| 720 | 187.34 | 0.00 | 187.33 | 179.984 | 0.001 | 179.983 |

Compared with the MP3-only profile, overall 6 VM disk IOPS for MP3 + wav profile shows almost double IOPS, as in the previous physical server section.
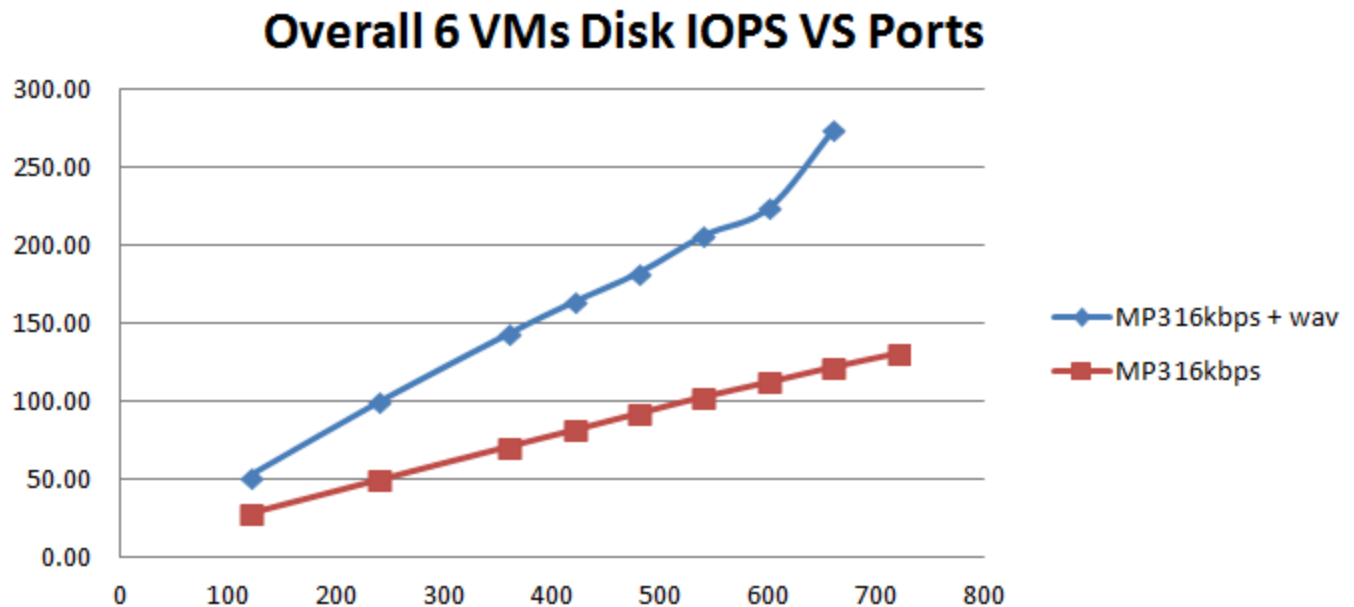
**Figure 97: Comparison of System Disk IOPS on VM env, MP3 + wav vs. MP3 only, on RH EL 6.5**

The table below illustrats overall data throughput for this MP3 + wav profile on VMs of RH EL 6.5 environment.

**Figure 98: Data throughputs from overall 6 VMs of dual hex core, MP3 16 kbps + wav, on EL 6.5**

| Ports | Overall Disk KB/sec | | | SSD Drive Disk KB/sec | | |
|---|---|---|---|---|---|---|
| | Total KB/ sec | Read KB/ sec | Write KB/ sec | Total KB/ sec | Read KB/ sec | Write KB/ sec |
| 120 | 2376.30 | 0.00 | 2376.30 | 2347.222 | 0.000 | 2347.222 |
| 240 | 4684.79 | 0.00 | 4684.79 | 4646.371 | 0.000 | 4646.371 |
| 360 | 6975.83 | 0.00 | 6975.83 | 6933.441 | 0.000 | 6933.441 |
| 420 | 8100.79 | 0.00 | 8100.79 | 8056.843 | 0.001 | 8056.842 |
| 480 | 9242.32 | 0.00 | 9242.32 | 9195.871 | 0.001 | 9195.871 |
| 540 | 10391.78 | 0.00 | 10391.78 | 10344.249 | 0.001 | 10344.249 |
| 600 | 11512.54 | 0.00 | 11512.54 | 11462.150 | 0.001 | 11462.149 |
| 660 | 12804.19 | 0.01 | 12804.18 | 12752.305 | 0.001 | 12752.304 |
| 720 | 9380.58 | 0.00 | 9380.58 | 9336.194 | 0.003 | 9336.191 |

## Encryption

### MP3 16 kbps Only on a Physical Server of Single Hex Core

This is SW Profile 3a (MP3 16 kbps only with encryption) on HW Profile 1 for a physical server which SW Profile 1a (MP3 only 16 kbps without encryption) is used as baseline to compare with. Here are the three graphs illustrating overall system CPU usage, MCP CPU usage and memory usage:
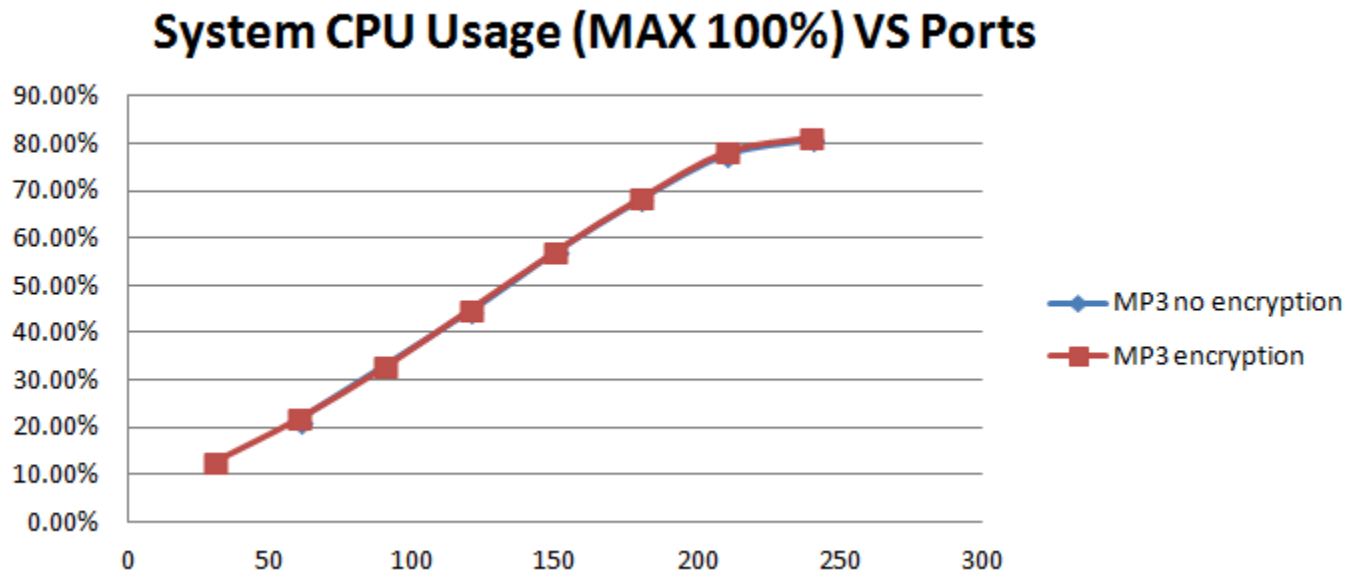


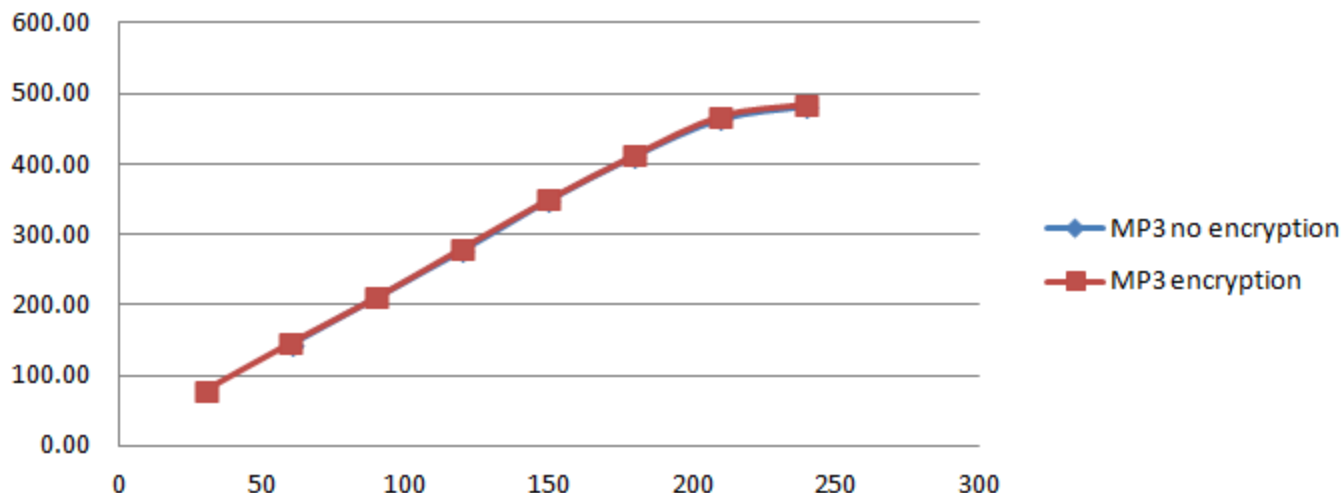**Figure 99: Comparison of System CPU Usage on a Physical Server, MP3 only 16 kbps encryption vs. non-encryption, on RH EL 6.5**

**Figure 100: Comparison of MCP CPU Usage on a Physical Server, MP3 only 16 kbps encryption vs. non-encryption, on RH EL 6.5**
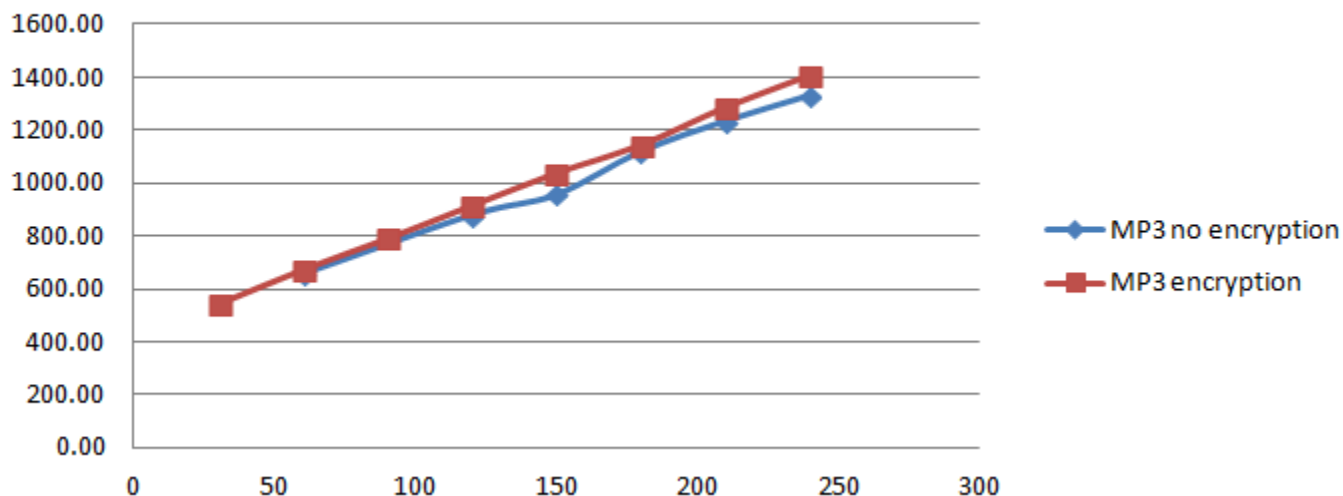


**Figure 101: Comparison of MCP Memory Usage on a Physical Server, MP3 only 16 kbps encryption vs. non-encryption, on RH EL 6.5**

It can be observed that both system CPU and MCP CPU are quite inline to each other between encryption and non-encryption profiles while MCP memory for encryption is slightly higher than non-encryption.

Let us look at audio quality metrics further:
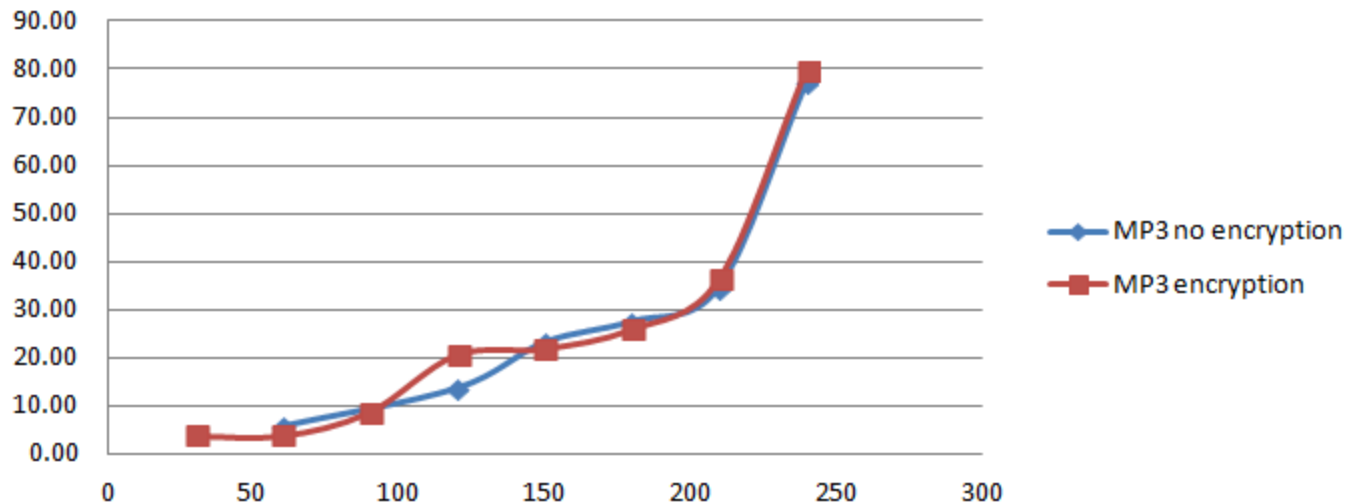
## Max Jitter (95th Percentile) VS Ports



**Figure 102: Comparison of Max Jitter on a Physical Server, MP3 only, Encryption vs. Non-encryption on EL 6.5**

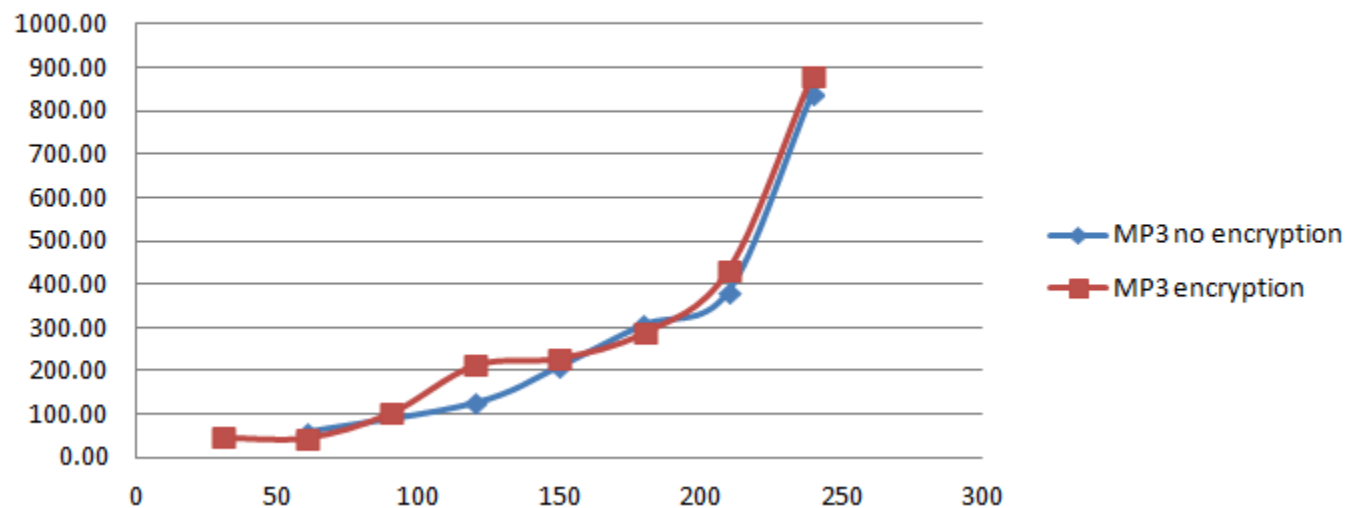## Max Delta (95th Percentile)  VS Ports



**Figure 103: Comparison of Max Delta on a Physical Server, MP3 only, Encryption vs. Non-encryption on EL 6.5**

Max Jitter is similar for both encryption and non-encryption scenarios, as are the Max Delta metrics. Thus, the preferred ports (540) and peak ports (660) for encryption are the same as for non-encryption.

System disk IOPS is illustrated below:

**Figure 104: System Disk IOPS on a Physical Server on EL 6.5, MP3 16 kbps only, Encryption**

| Ports | Physical Server Disk IOPS | | |
|---|---|---|---|
| | Total | Reads | Writes |
| 30 | 8.12 | 0.000 | 8.122 |
| 60 | 14.22 | 0.000 | 14.220 |
| 90 | 19.98 | 0.000 | 19.975 |
| 120 | 25.12 | 0.000 | 25.122 |
| 150 | 30.62 | 0.000 | 30.621 |
| 180 | 35.07 | 0.000 | 35.074 |
| 210 | 39.83 | 0.000 | 39.828 |
| 240 | 44.74 | 0.000 | 44.739 |

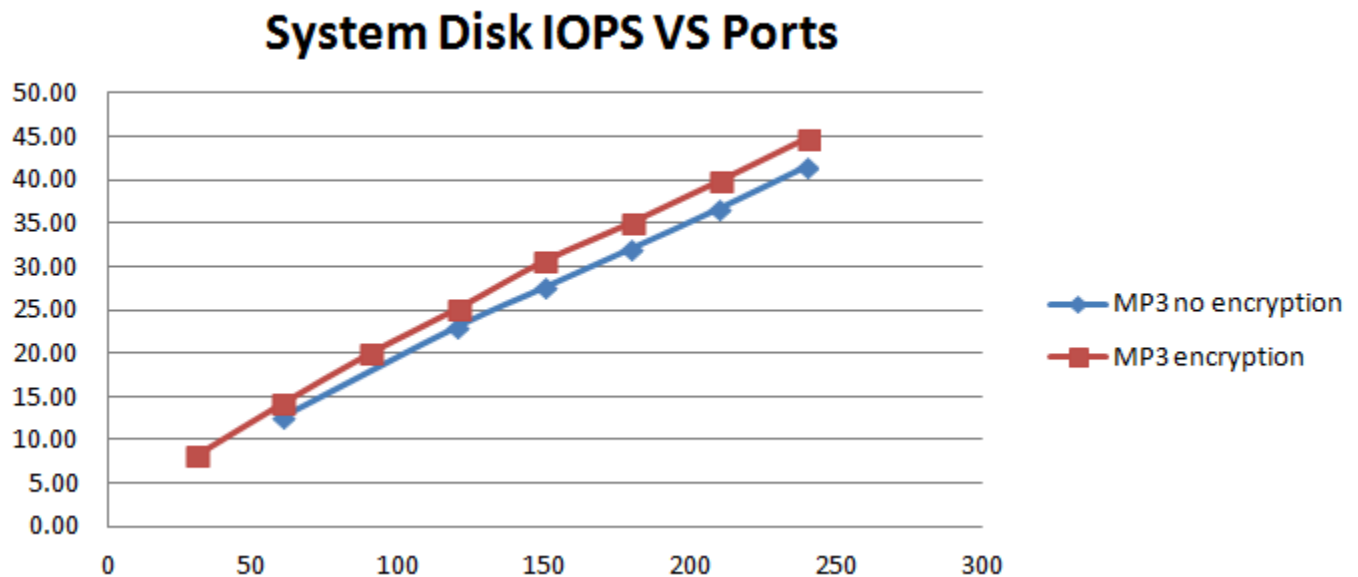The graph below compares encryption with non-encryption:



**Figure 105: Comparison of System Disk IOPS on a Physical Server, MP3 only, on EL 6.5, Encryption vs. Non-encryption**

Slightly higher system disk IOPS occurs in the encryption scenario, likely caused by the extra key/pem files required for encryption.

## MP3 16 kbps Only on VMs of Dual Hex Cores

This test uses SW Profile 3a (MP3 16 kbps only with encryption) on VM Profile 4 configured as HW Profile 0 for a VM environment, compared with SW Profile 1a (MP3 only 16 kbps without encryption) on the same hardware specification. Below are graphs illustrating overall system CPU usage and memory usage:
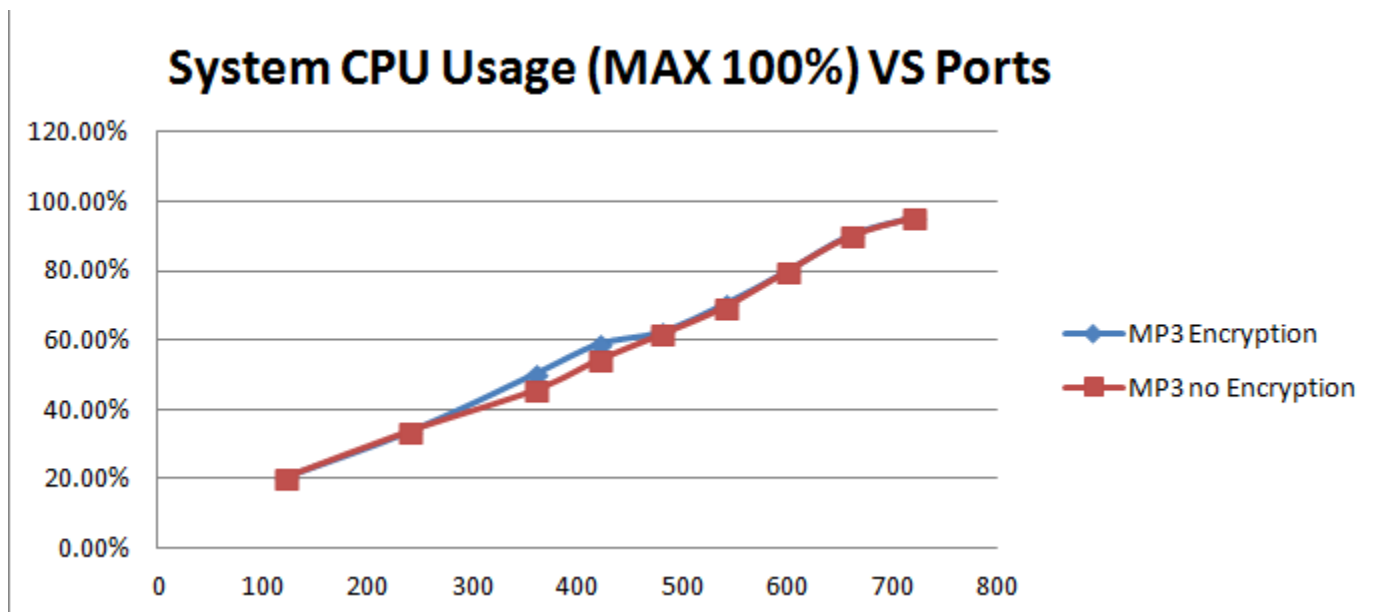
**Figure 106: Comparison of System CPU Usage on VMs, MP3 only 16 kbps encryption vs. non-encryption, on RH EL 6.5**
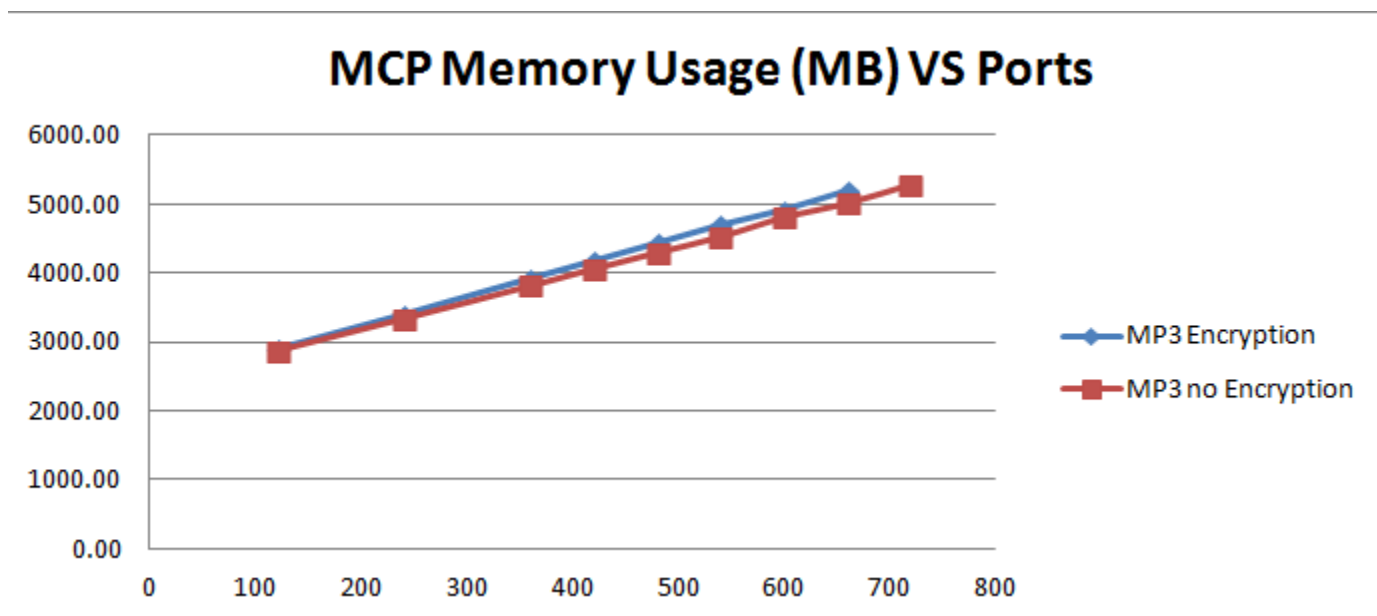
**Figure 107: Comparison of MCP Memory Usage on VMs, MP3 only 16 kbps encryption vs. non-encryption, on RH EL 6.5**

As observed in previous physical server graphs, CPU usage is almost the same for both encryption and non-encryption, while MCP memory usage is slightly higher for encryption.
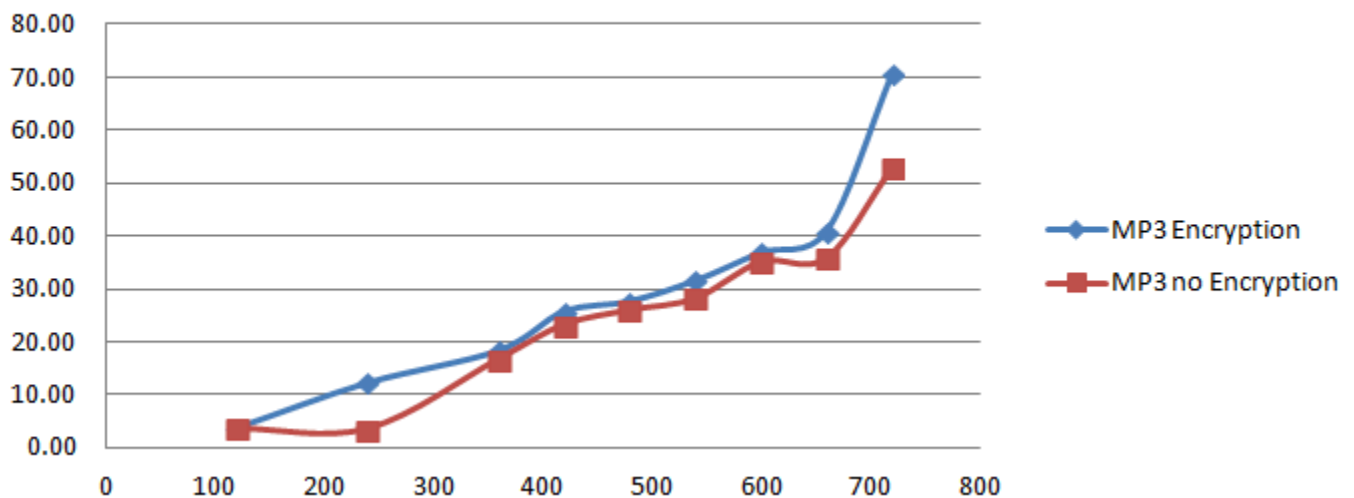
Consider audio quality metrics:

**Figure 108: Comparison of Max Jitter on VMs, MP3 only, Encryption vs. Non-encryption on EL 6.5**
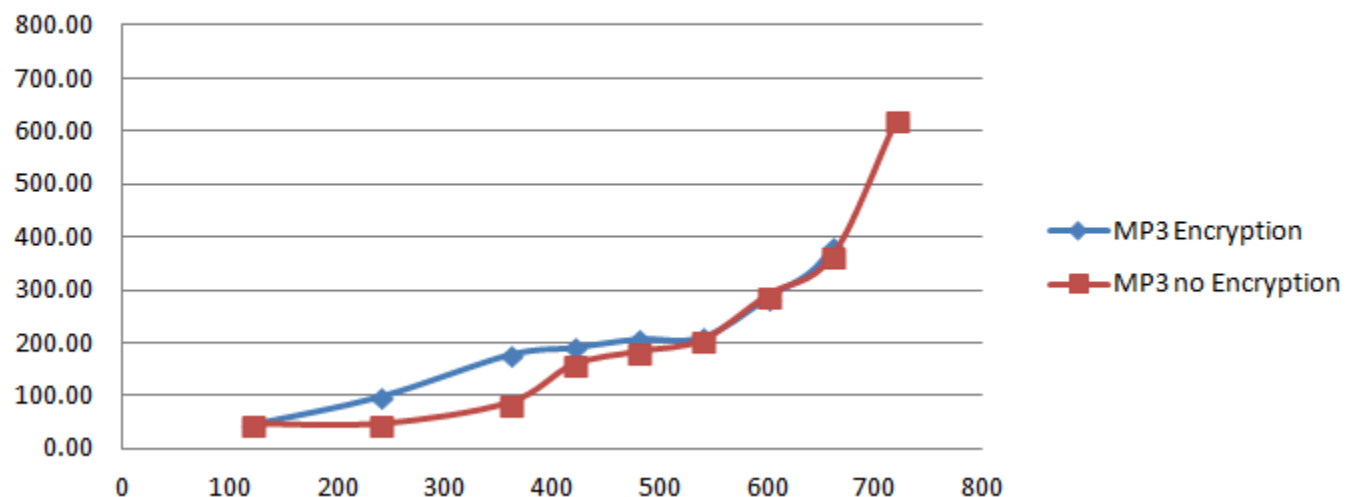


**Figure 109: Comparison of Max Delta on VMs, MP3 only, Encryption vs. Non-encryption on EL 6.5**

Similar trends can be observed in the previous physical server section that both encryption and non-encryption achieved similar value for both Max Jitter and Max Delta. So the preferred ports (540) and peak ports (660) for encryption would be the same as non-encryption.

**Figure 110: Overall System Disk IOPS on VMs of EL 6.5, MP3 16 kbps only, Encryption**

| Ports | Overall 6 VMs Disk IOPS | | | SSD Drive Disk IOPS | | | |
|---|---|---|---|---|---|---|---|
| Total | Reads | Writes | Total | Reads | Writes | |
| 120 | 30.44 | 0.00 | 30.44 | 25.997 | 0.000 | 25.997 |
| 240 | 53.41 | 0.00 | 53.41 | 47.939 | 0.000 | 47.939 |
| 360 | 75.57 | 0.00 | 75.57 | 70.011 | 0.000 | 70.011 |
| 420 | 86.37 | 0.00 | 86.37 | 80.600 | 0.000 | 80.600 |
| 480 | 97.32 | 0.00 | 97.32 | 91.564 | 0.000 | 91.564 |
| 540 | 108.20 | 0.00 | 108.20 | 102.393 | 0.000 | 102.393 |
| 600 | 117.95 | 0.00 | 117.95 | 112.132 | 0.000 | 112.132 |
| 660 | 127.85 | 0.00 | 127.85 | 121.911 | 0.000 | 121.911 |
| 720 | 136.85 | 0.00 | 136.85 | 130.951 | 0.000 | 130.951 |

The graph below compares encryption with non-encryption:
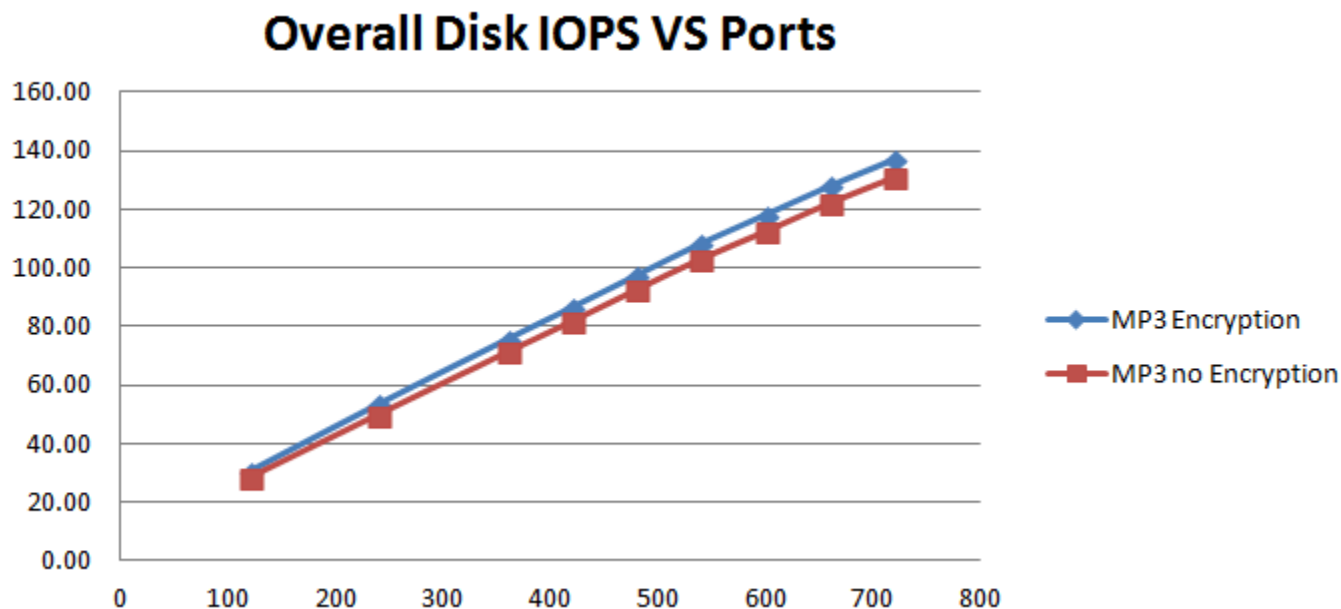


**Figure 111: Comparison of System Disk IOPS on VM env, MP3 only, on EL 6.5, Encryption vs. Non-encryption**

As in the previous physical server section, system disk IOPS for encryption is slightly higher than non-encryption.

Data throughput is illustrated in this table:

**Figure 112: Data throughputs from overall 6 VMs of dual hex core, MP3 16 kbps only, encryption, on EL 6.5**

| Ports | Overall Disk KB/sec | SSD Drive Disk KB/sec |
|---|---|---|

| | Total KB/sec | Read KB/sec | Write KB/sec | Total KB/sec | Read KB/sec | Write KB/sec |
|---|---|---|---|---|---|---|
| 120 | 435.55 | 0.00 | 435.55 | 403.192 | 0.000 | 403.192 |
| 240 | 822.06 | 0.00 | 822.06 | 780.379 | 0.000 | 780.379 |
| 360 | 1186.43 | 0.00 | 1186.43 | 1140.874 | 0.000 | 1140.874 |
| 420 | 1359.14 | 0.00 | 1359.14 | 1311.668 | 0.000 | 1311.668 |
| 480 | 1549.49 | 0.00 | 1549.49 | 1500.982 | 0.000 | 1500.982 |
| 540 | 1719.89 | 0.00 | 1719.89 | 1669.506 | 0.000 | 1669.506 |
| 600 | 1905.09 | 0.00 | 1905.09 | 1853.208 | 0.000 | 1853.208 |
| 660 | 2081.23 | 0.00 | 2081.23 | 2027.495 | 0.000 | 2027.495 |
| 720 | 2269.56 | 0.00 | 2269.56 | 2214.658 | 0.000 | 2214.658 |

## MP3 16 kbps + wav on VMs of Dual Hex Cores

This test uses SW Profile 4a (MP3 16 kbps + wav with encryption) on VM Profile 4 configured as HW Profile 1 for a VM environment to compare with SW Profile 2a (MP3 16 kbps + wav without encryption) on the same HW spec. Below are two graphs illustrating overall system CPU usage and memory usage:
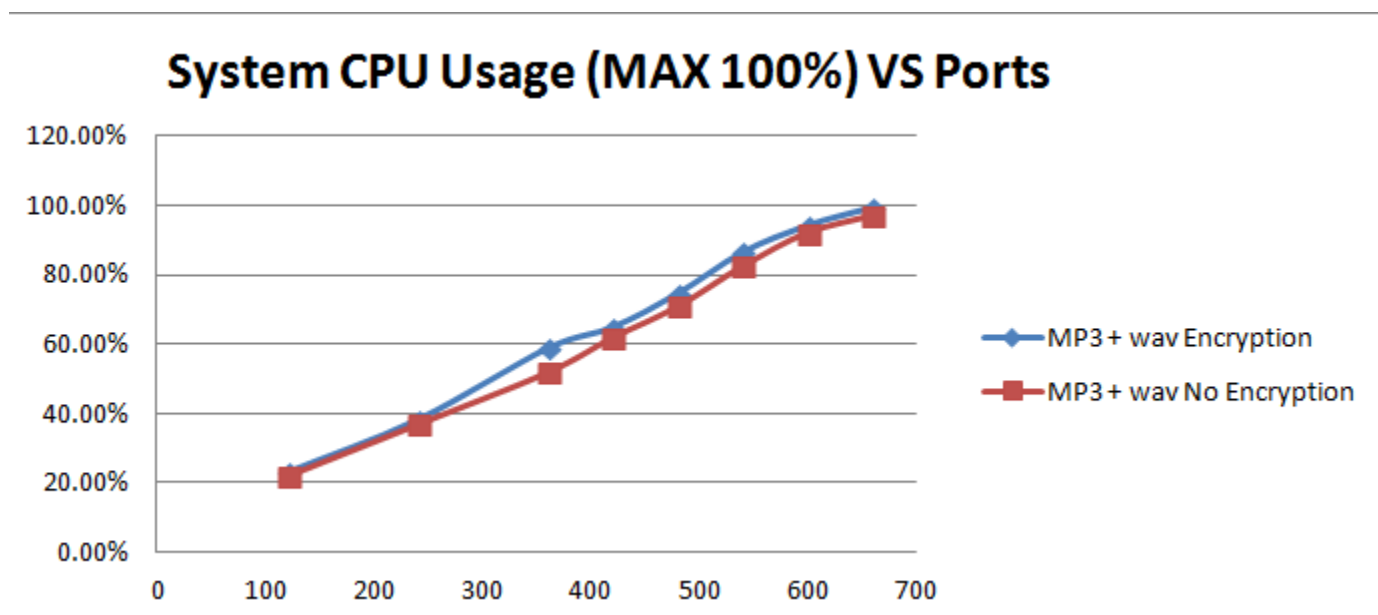


**Figure 113: Comparison of System CPU Usage on VMs, MP3 16 kbps + wav encryption vs. non-encryption, on RH EL 6.5**
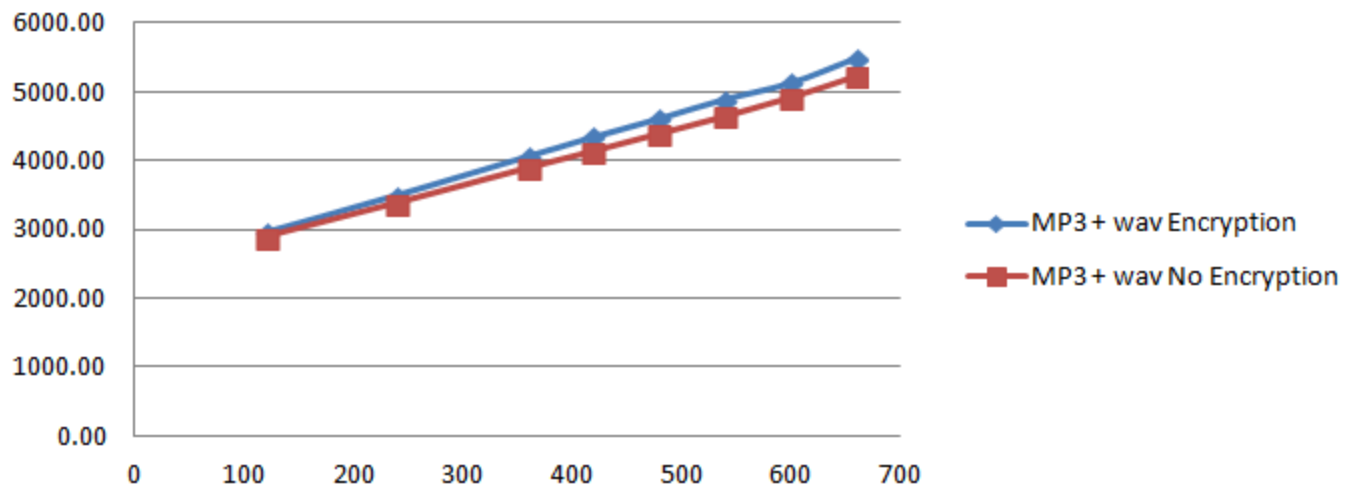
**Figure 114: Comparison of MCP Memory Usage on VMs, MP3 16 kbps + wav encryption vs. non-encryption, on RH EL 6.5**

System CPU usage is quite close to each other for both encryption and non-encryption, while MCP memory usage for encryption is slightly higher than for non-encryption, similar to the previous MP3 only test scenarios.

The audio quality metrics of Max Jitter and Max Delta also show similar trends.
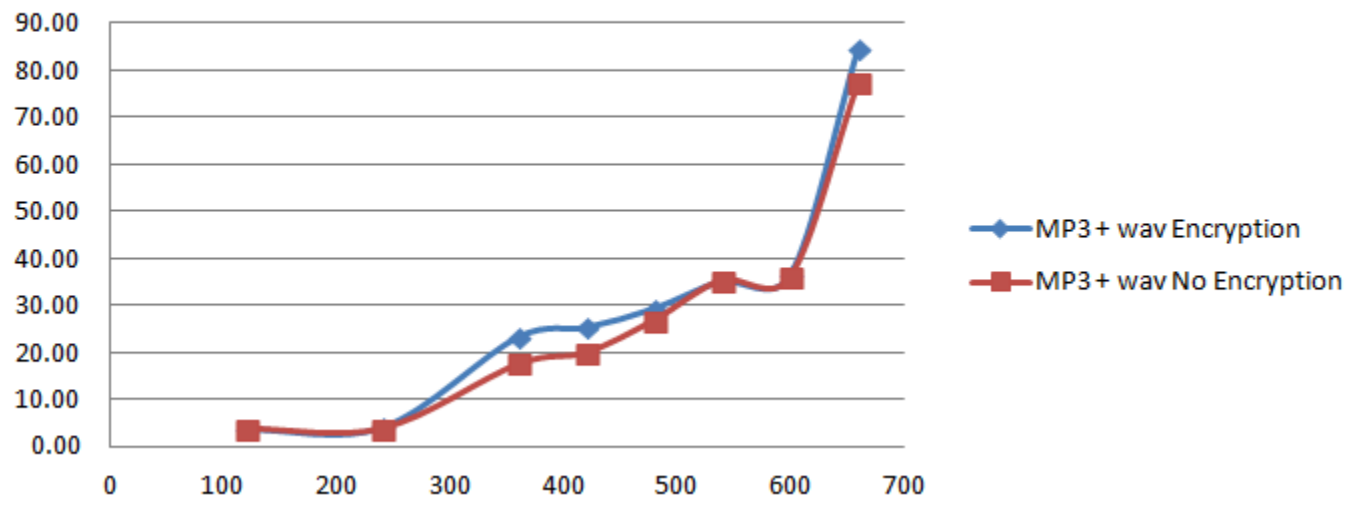


**Figure 115: Comparison of Max Jitter on VMs, MP3 + wav, Encryption vs. Non-encryption on EL 6.5**
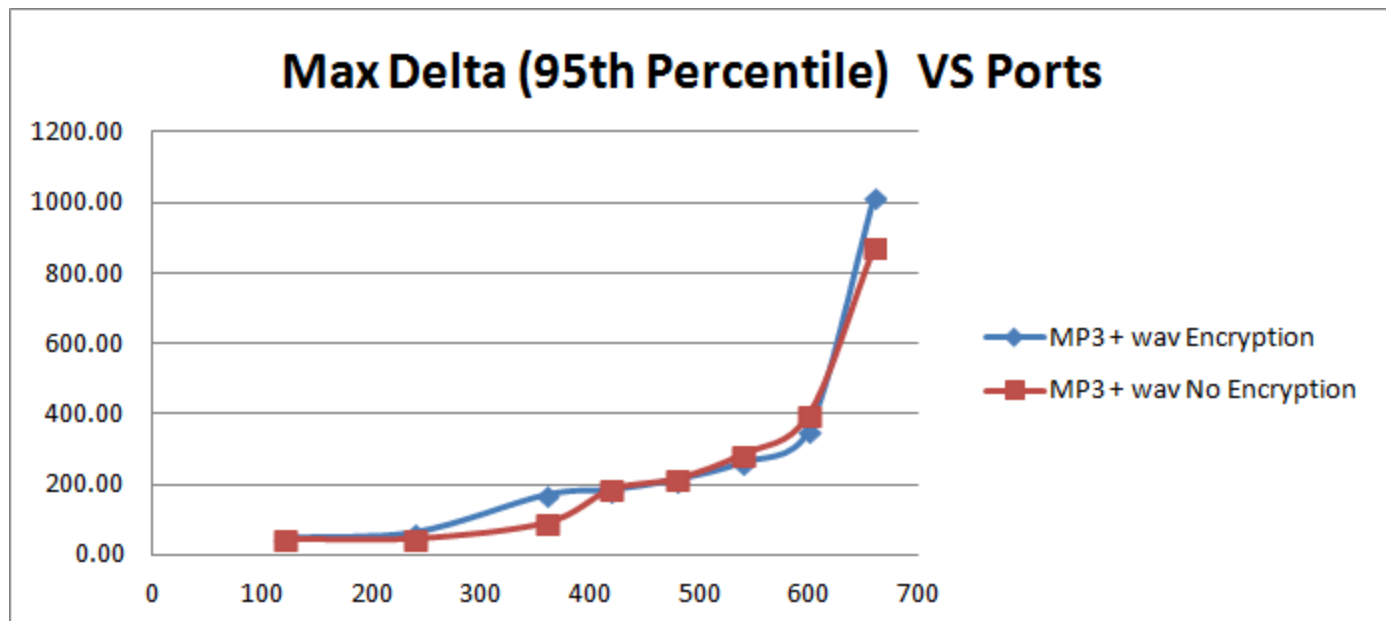
**Figure 116: Comparison of Max Delta on VMs, MP3 + wav, Encryption vs. Non-encryption on EL 6.5**

The recommended and preferred ports for encryption of MP3 + wav would be 480 the same as non-encryption of MP3 + wav, as is 600 for peak ports.

The table below shows overall system disk IOPS, for reference:

**Figure 117: Overall System Disk IOPS on VMs of EL 6.5, MP3 16 kbps + wav, Encryption**

| Ports | Overall 6 VMs Disk IOPS | | | SSD Drive Disk IOPS | | |
|---|---|---|---|---|---|---|
| | Total | Reads | Writes | Total | Reads | Writes |
| 120 | 53.97 | 0.00 | 53.97 | 49.506 | 0.000 | 49.506 |
| 240 | 102.98 | 0.00 | 102.98 | 97.468 | 0.000 | 97.468 |
| 360 | 149.87 | 0.00 | 149.87 | 144.235 | 0.000 | 144.235 |
| 420 | 171.89 | 0.00 | 171.89 | 166.144 | 0.000 | 166.144 |
| 480 | 196.97 | 0.00 | 196.97 | 191.140 | 0.000 | 191.140 |
| 540 | 223.52 | 0.01 | 223.51 | 217.663 | 0.000 | 217.663 |
| 600 | 246.26 | 0.03 | 246.22 | 240.216 | 0.000 | 240.216 |
| 660 | 296.60 | 0.00 | 296.60 | 290.582 | 0.000 | 290.582 |

The graph below compares encryption with non-encryption, and shows the same trend as observed previously in this section:
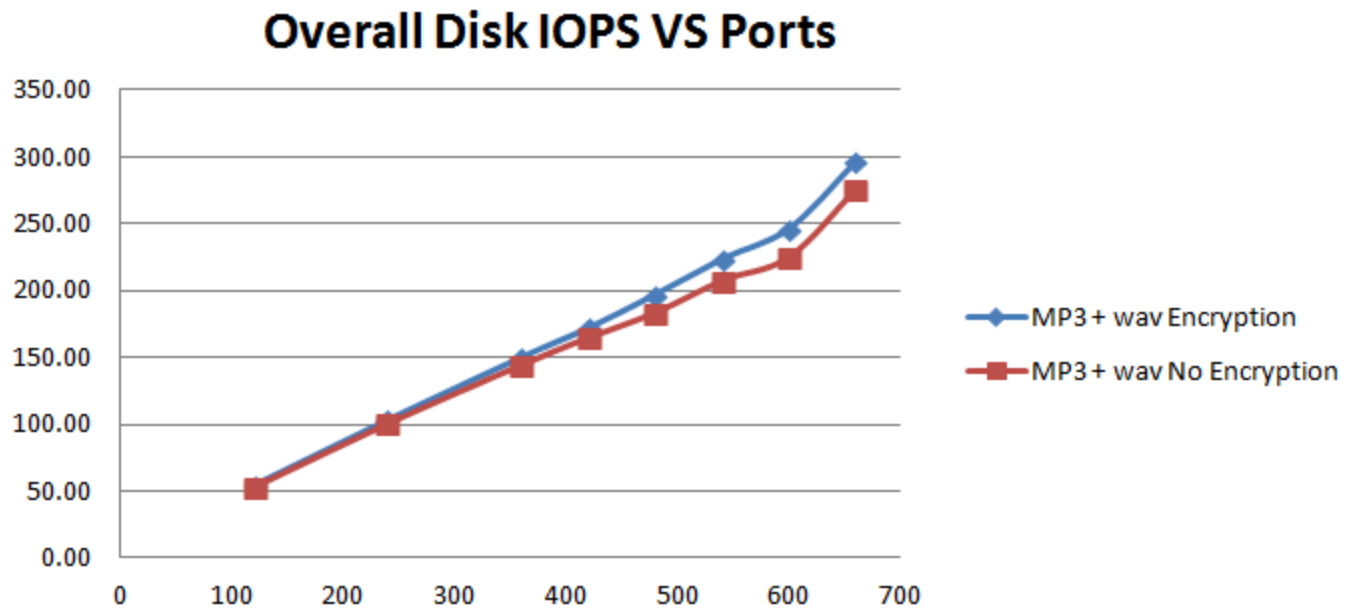
**Figure 118: Comparison of System Disk IOPS on VM env, MP3 + wav, on EL 6.5, Encryption vs. Non-encryption**

Data throughput is also listed below as reference:

**Figure 119: Data throughputs from overall 6 VMs of dual hex core, MP3 16 kbps + wav, encryption, on EL 6.5**

| Ports | Overall Disk KB/sec | | | SSD Drive Disk KB/sec | | |
|---|---|---|---|---|---|---|
| | Total KB/sec | Read KB/sec | Write KB/sec | Total KB/sec | Read KB/sec | Write KB/sec |
| 120 | 2421.76 | 0.00 | 2421.76 | 2373.612 | 0.000 | 2373.612 |
| 240 | 4756.37 | 0.00 | 4756.37 | 4699.737 | 0.000 | 4699.737 |
| 360 | 7065.62 | 0.00 | 7065.62 | 7004.491 | 0.000 | 7004.491 |
| 420 | 8179.23 | 0.00 | 8179.23 | 8116.591 | 0.000 | 8116.591 |
| 480 | 9366.53 | 0.00 | 9366.53 | 9301.426 | 0.000 | 9301.426 |
| 540 | 10489.26 | 0.14 | 10489.12 | 10423.230 | 0.000 | 10423.230 |
| 600 | 11647.29 | 0.78 | 11646.51 | 11574.973 | 0.000 | 11574.973 |
| 660 | 12976.30 | 0.06 | 12976.24 | 12905.764 | 0.001 | 12905.763 |