

# 1<sup>o</sup> QlikDev

## Latino América



## Server Sizing

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# Agenda

- Questions to answer
- Hardware Scaling
- Factors that affect Performance
- Utilities to help



**QlikView**

# What are we trying to Answer?

- How much of a specific dataset can be analyzed?
- How many concurrent users?
- Based on the dataset and number of users what is the server size required?



# The Platform Shift over time

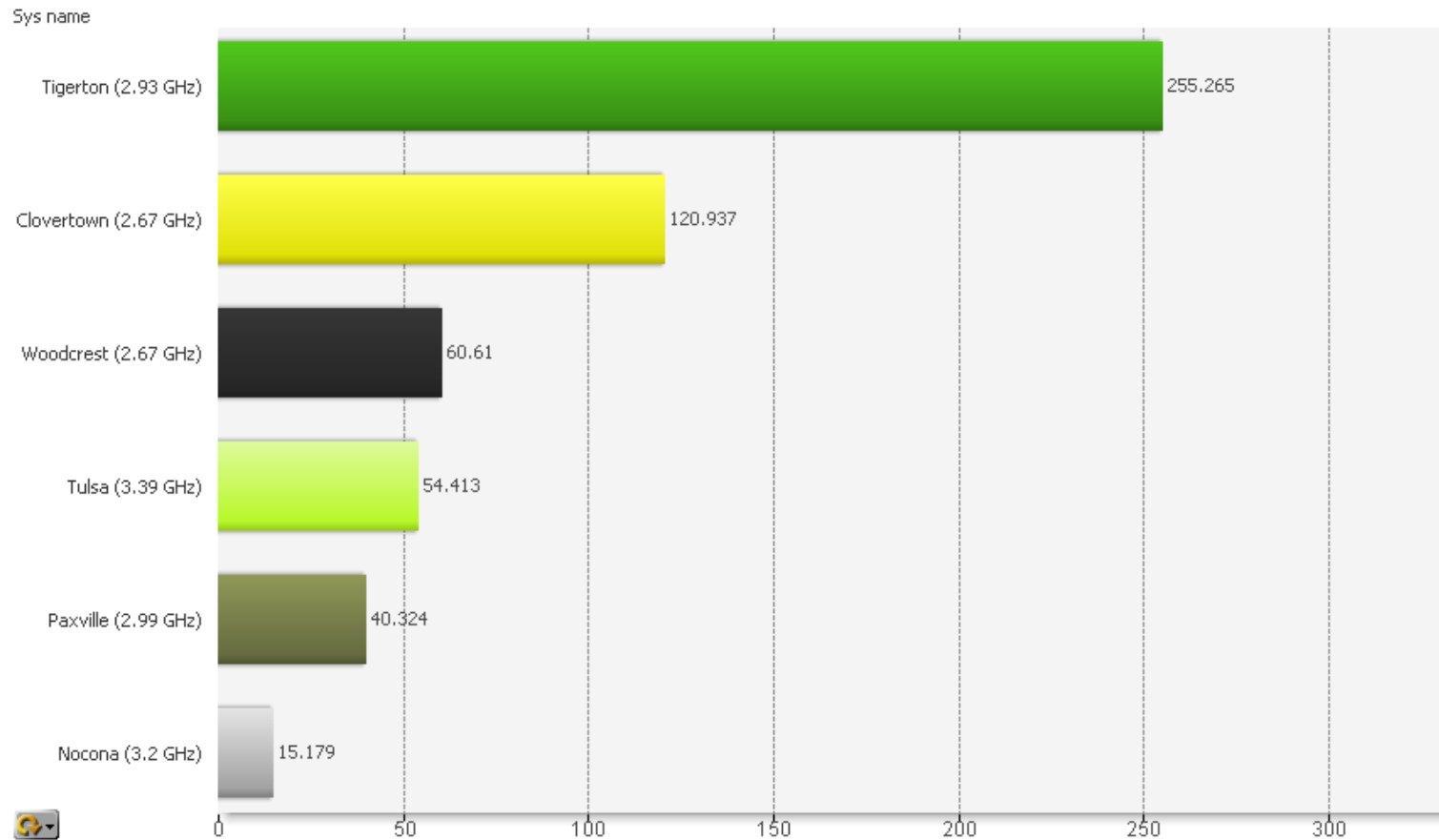


- QlikView is uniquely positioned to benefit from the current hardware shift. Multi-core, 64-bit addressable memory
- Technology takes off when its: cheap, pervasive, and stable

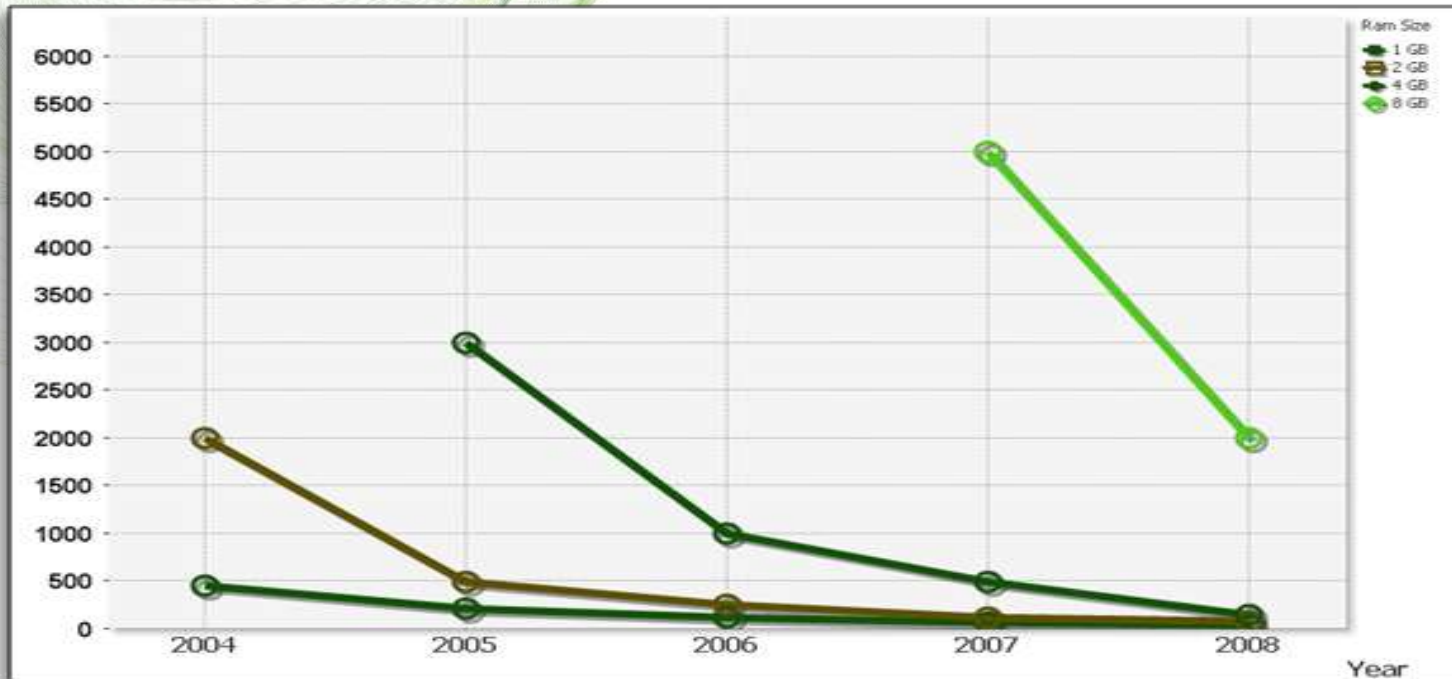


# On The Right Side of Moore's Law

Records Processed per Second (Million)



# Perfect Scaling on multi-processor, multi-core hardware



# The Impact of Best Practices on Sizing

- Well written data models out perform poor designs
- Design and hardware are interrelated.



# The RAM factor



- Entire QVW loaded
- Virtual Memory is Slow
- Dedicate the server



**QlikView**



# The Processor Factor

- QlikView scales ~100%
- Calculations affected



**QlikView**

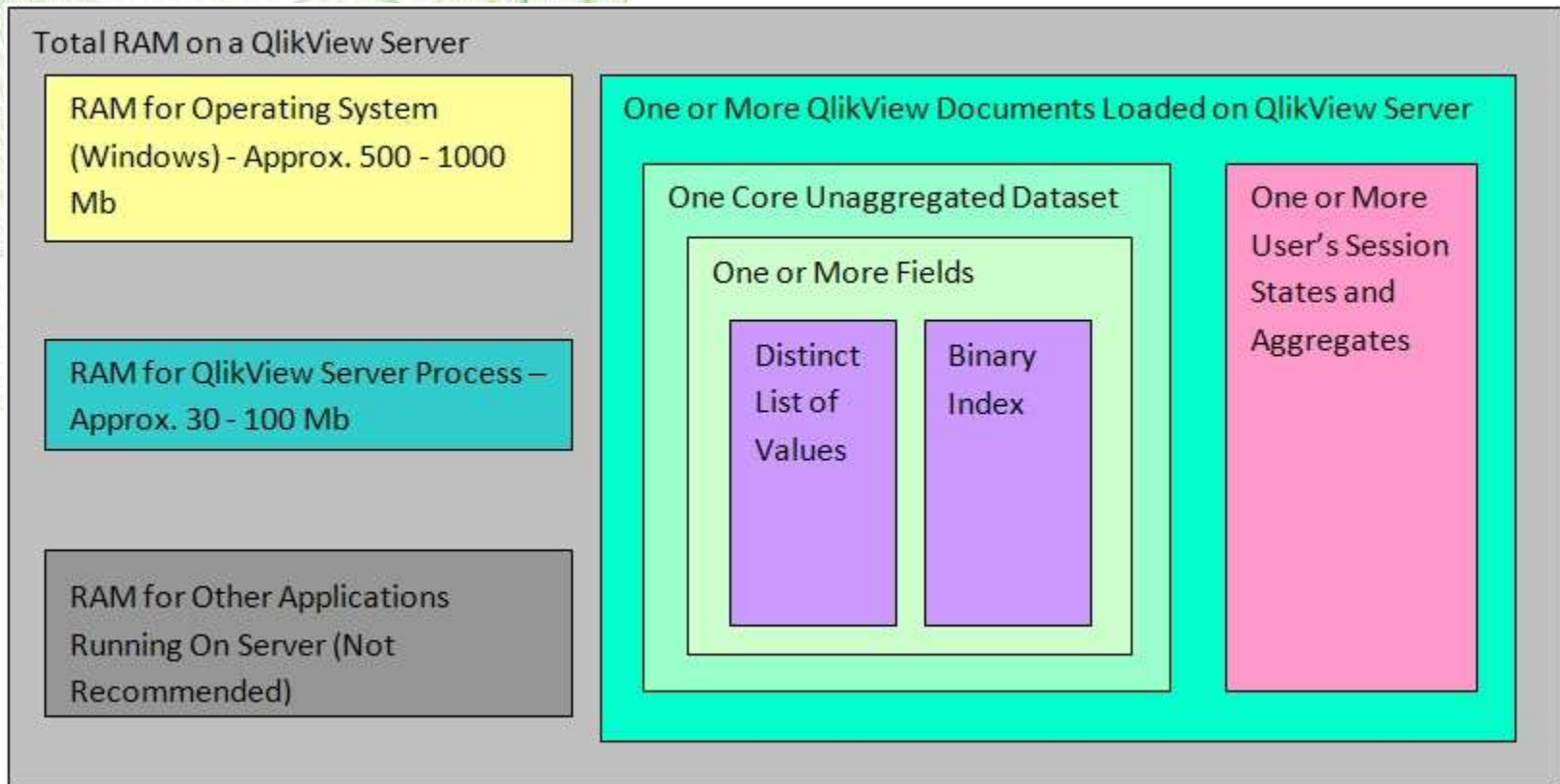
# The Hard Disk Space Factor

- Rarely an issue
- Drive speed
- Cheap



**QlikView**

# How RAM is Used



# The data

<b>Applications</b>	<b>A</b>	<b>B</b>
File Size	7,252,383	2,828,396
File to Memory Ratio	2.5	3.4
Memory	18,233,232	9,570,388
Memory Per User	7,352	33,612
Fact Table Records	540,151,959	236,314,172
# Tables	31	45
# Fields	117	284
# Objects	41	260



**QlikView**

# The data

<b>Applications</b>	<b>C</b>	<b>D</b>
File Size	3,542,617	3,637,201
File to Memory Ratio	2.0	1.6
Memory	6,995,868	5,872,648
Memory Per User	8,968	23,572
Fact Table Records	538,376,420	69,857,941
# Tables	8	1
# Fields	56	33
# Objects	25	185



# Simulator

QlikView - [QlikView Server Load Simulator\*]

File Edit View Selections Layout Settings Bookmarks Reports Tools Object Window Help

Clear Back Forward Lock Unlock

Intro Definitions Variables **Inputs** Graphs Enhancements

## QlikView Server Load Simulator

Version: 0.51

**Mode**

Simple  
 Advanced

Simple mode allows you to start App calculations from a known or estimated QVW Size.  
Advanced mode starts from data source inputs and calculates the QVW size.

**Inputs**

Servers: # 1 Cores: 16 RAM(GB):32 CPU Secs: 960

Production Server #1 1 Production Server #2 0

Processor Speed: 64 bit  
CPU: 4  
Cores: 4  
RAM: 32

**Simulation Types - Sample View**

1 2 3 4 5

**Applications**

App #1 1 App #2 1 App #3 0

App #1	App #2
Name: CPD App	Name: Finance Dashboard
Rows: 285,000,000	Rows: 125,000,000
Columns: 13	Columns: 12
Avg Col Size: 5	Avg Col Size: 9
Compression: High	Compression: Medium
Complexity: Average	Complexity: Average
Max Concur Users: 12	Max Concur Users: 3
Queries/Min: 2.5	Queries/Min: 3.5
Simulation Type: 4	Simulation Type: 3

App #1	App #2
QVW Size (MB) 883	QVW Size (MB) 1,287
Size in RAM (MB) 3,533	Size in RAM (MB) 5,150
User Footprint (MB) 530	User Footprint (MB) 772
CPU Sec/Query 17.7	CPU Sec/Query 25.7

**Preview (full view on next tab)**

**RAM Utilization**

Avail RAM - 32GB  
Effective RAM - 24GB

**CPU Utilization**

Avail CPU - 960

Wiliam Foxley "webco"



# Design Considerations

- Flatter is better
- Avoid Counts and Count distinct
- No Synthetic Keys
- Set Analysis faster than nested If(sums)
- Aggregation can help
- Use Numeric Keys





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