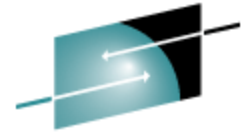


10 Completely Obvious Tuning Tips

Denise P. Kalm, CA Technologies
December, 2010



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Abstract

In a tough economic cycle, everyone is getting back to basics and focusing on the fundamentals. And as our work lives get more complex, it can be easy to get buried in the details and bemused by technical wizardry and advances. But the basic rules in performance really haven't changed and apply whether you are enjoying the mainframe renaissance, playing in Linux or managing any other server. Let's get back to tuning basics in this session.

Agenda

- ❖ The 10 KPRs
- ❖ Summary



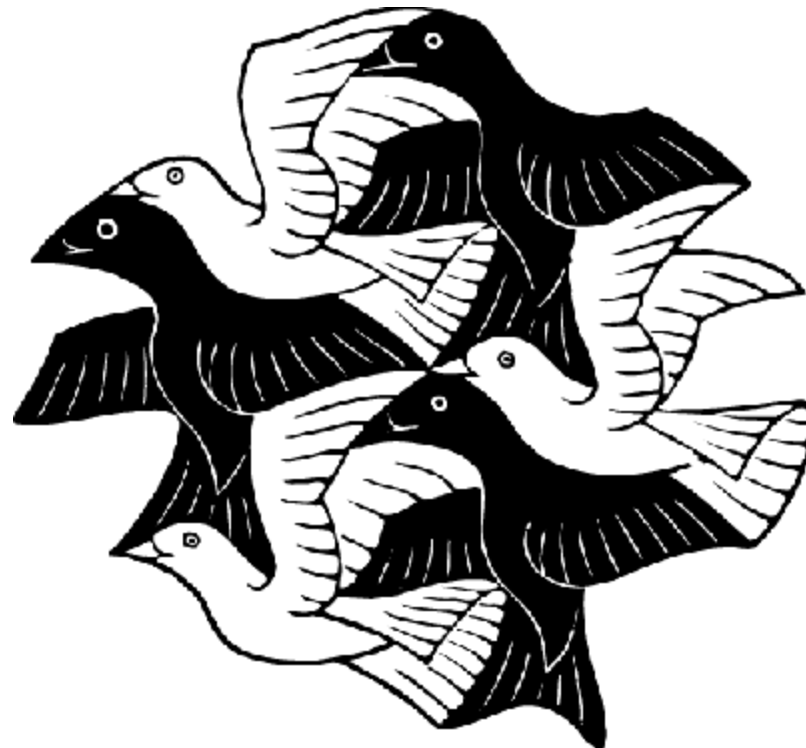
“The obscure we see eventually. The completely obvious, it seems, takes longer.”

Edward R. Murrow



“The greatest enemy of knowledge is not ignorance; it is the illusion of knowledge.”

Stephen Hawking



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TRADITION

JUST BECAUSE YOU'VE ALWAYS DONE IT THAT WAY
DOESN'T MEAN IT'S NOT INCREDIBLY STUPID.

www.despair.com

The 10 KPRs

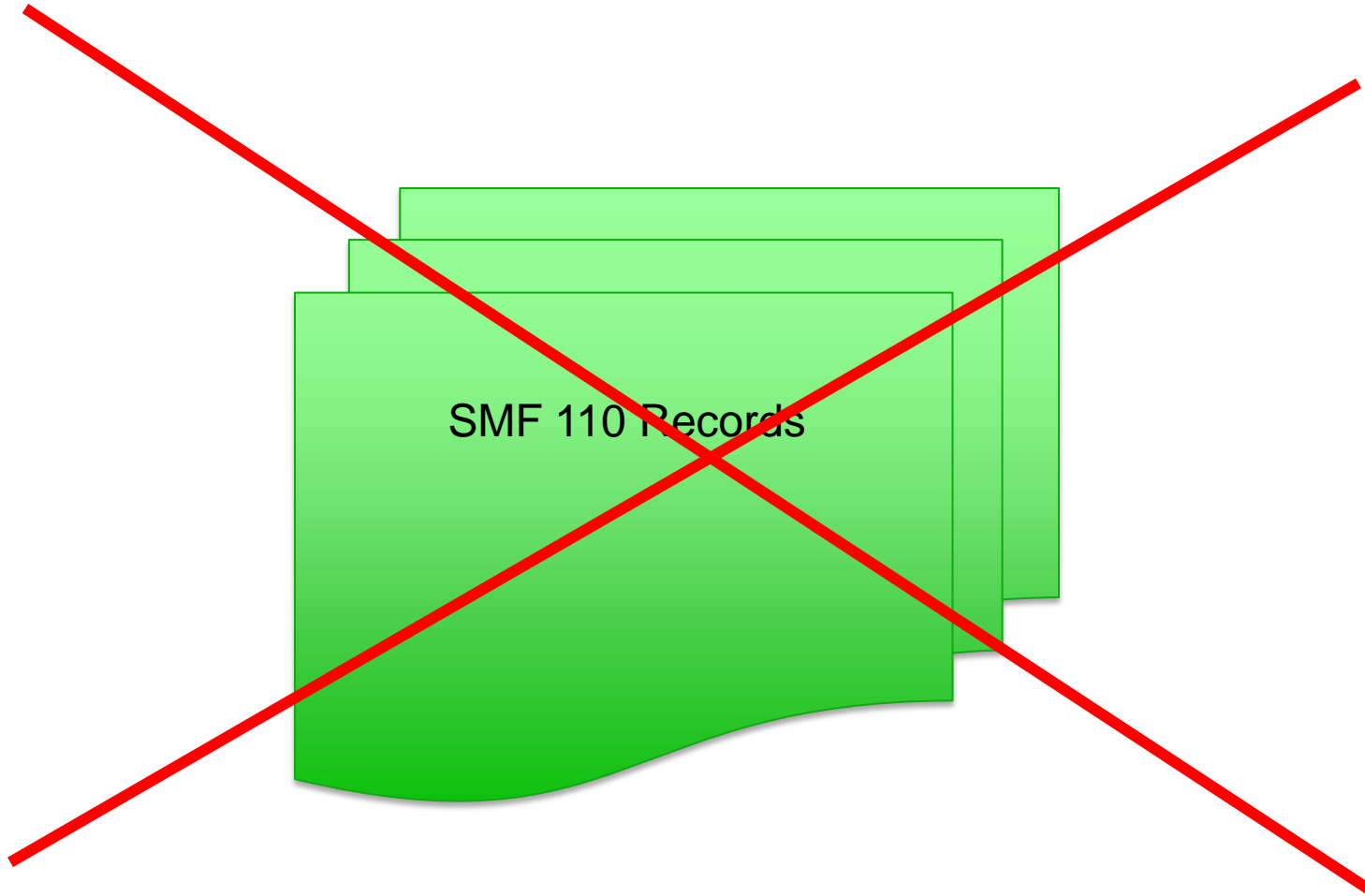
1. All the data, all the time
2. Expect the best and plan for the worst
3. Know your user and your business
4. Bottlenecks never go away – they just move
5. Know your loved ones, but don't ignore the rest
6. Only change one thing at a time (and document it)
7. Use cheap resources
8. The best I/O is no I/O
9. Understand your metrics (and statistics)
10. Communicate

1. All the data, all the time

“You cannot manage what you don’t measure.”



Where's the data?





“The goal is to transform data into information, and information into insight.”

Carly Fiorina

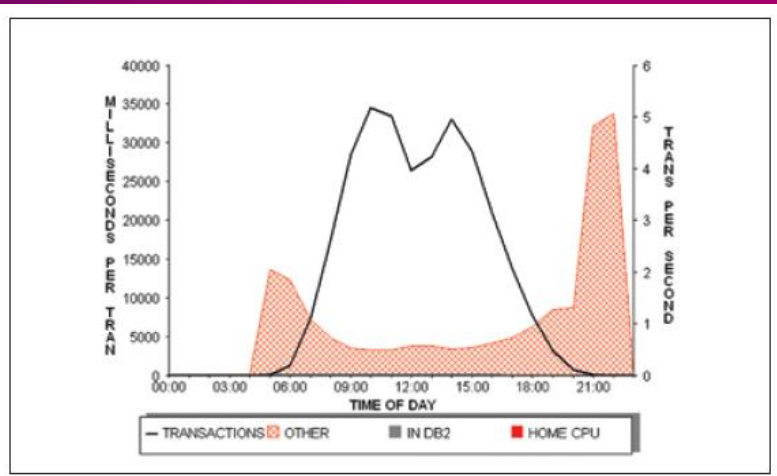
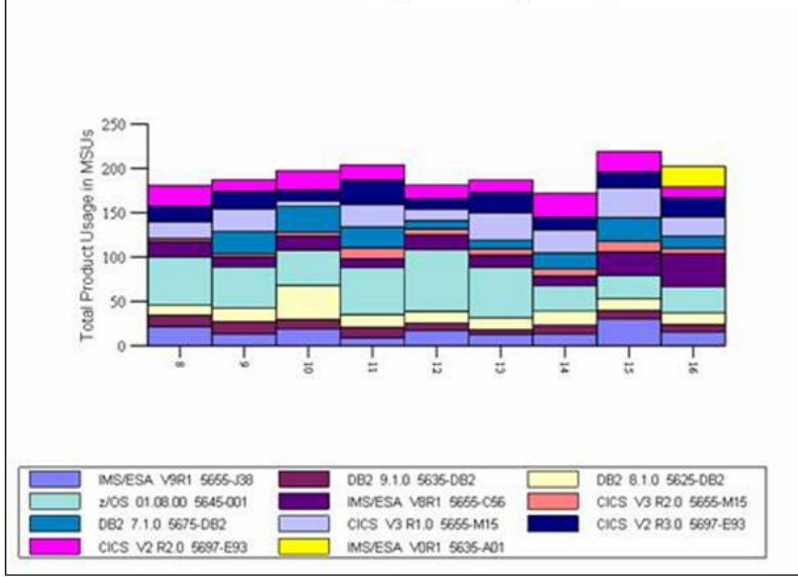


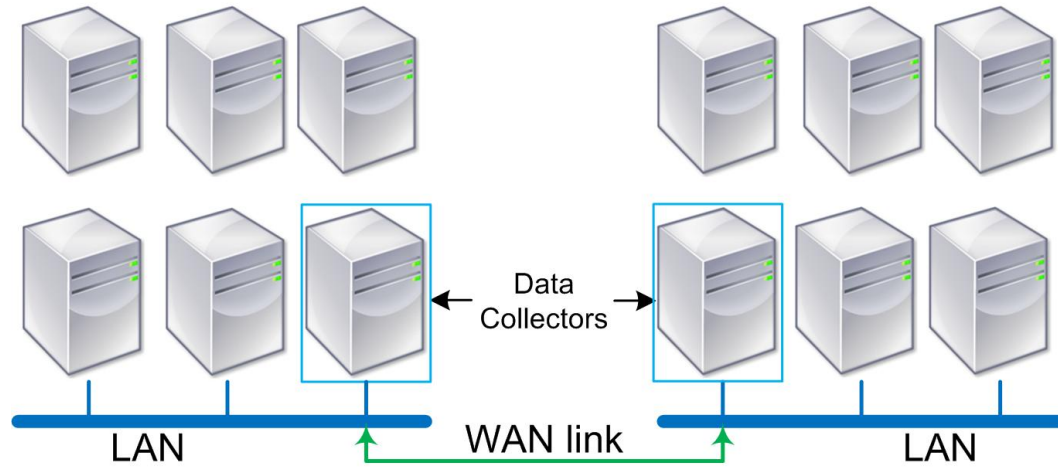
Figure 11: CICS Application R/T Profile

Stacked Bar Chart by Prod
Total Pro
by
Ending Date = 2007-09-11 Sysplex Name = PLEXC1

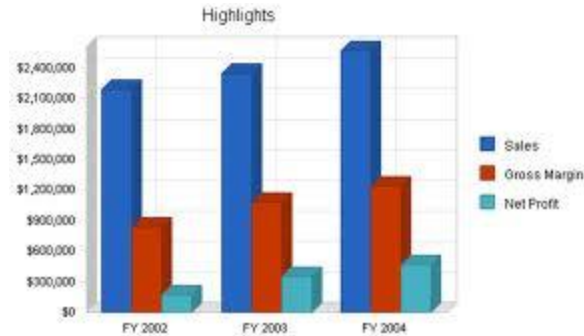


Server Farm

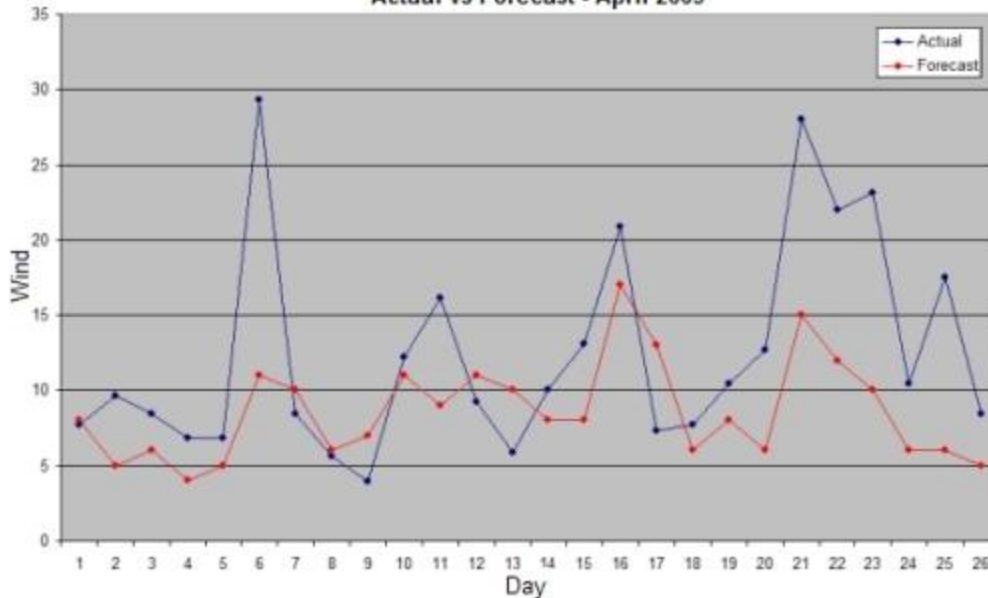
Zone 2



2. Expect the best and plan for the worst



Actual vs Forecast - April 2009



The WORST-CASE SCENARIO Survival Handbook



By Joshua Piven and David Borgnicht

Were you ready?

Temporary eBay failure effects our applications

It seems that eBay has accidentally changed our account on their system, which is effecting all our applications.

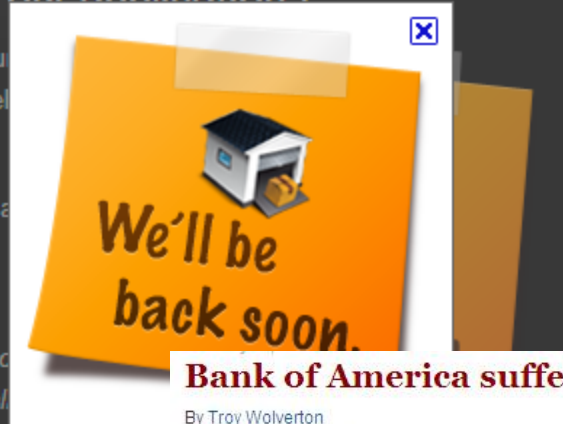
Since about 10:00 GMT none of our applications is able to make requests to the eBay Server.

Instead you will see the following error message:

Your application has exceeded usage limit on this call. Please make call to GetAPIAccess Rules to check your call.

We hope that the problem is fixed around 20:00 GMT at the latest with any news on this issue.

Update: We were just informed by eBay's developer support



Bank of America suffers site outage

By Troy Wolverton
Staff Writer, CNET News

2 comments

Bank of America



Bank of America's online banking site was dogged by problems in its third day of sporadic outages and slow service.

The company's online banking site for California customers was down for about three hours Thursday, and went down again in the afternoon, company representatives said.

Meanwhile, the company's online banking services suffered a nationwide outage from at least 11:45 a.m. PST to 12:45 p.m. PST, company representatives said. Executives blamed the outages both inside and outside California on a problem with the sites' network connection.

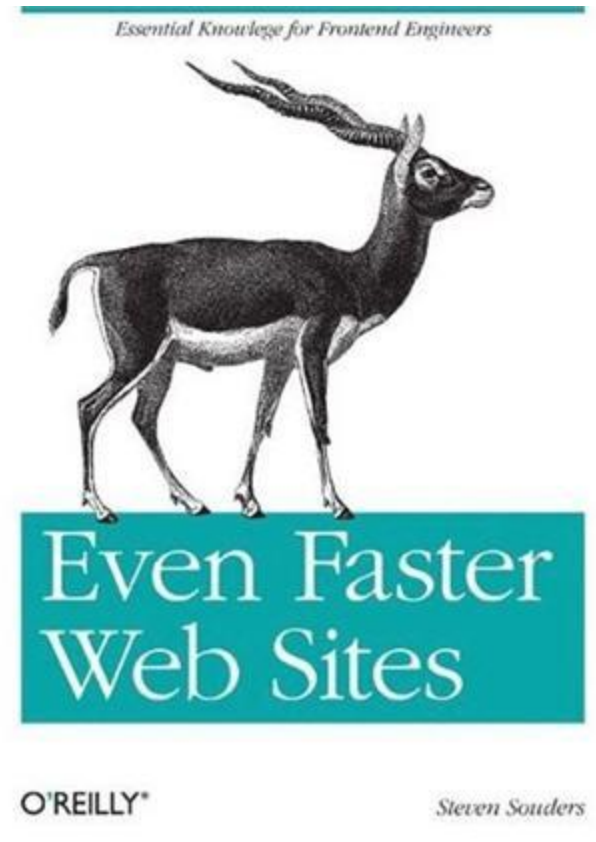
Track, model and plan

- Track business accuracy
- Model to push the limits
- Track actuals vs. forecasts
- Understand business error
- Personal SLAs

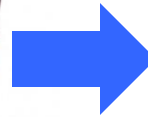


3. Know your user and your business





Teaming for Success



4. Bottlenecks never go away – they just move



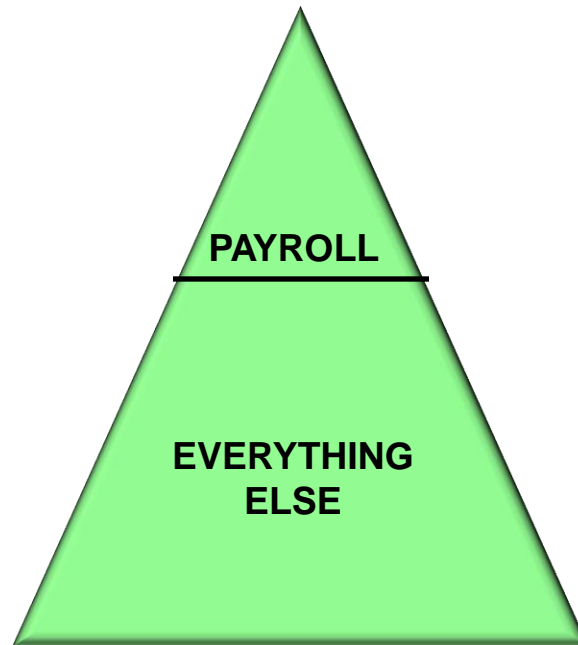
Bottleneck Analysis



5. Know your loved ones, but don't ignore the rest



Management assigning priorities



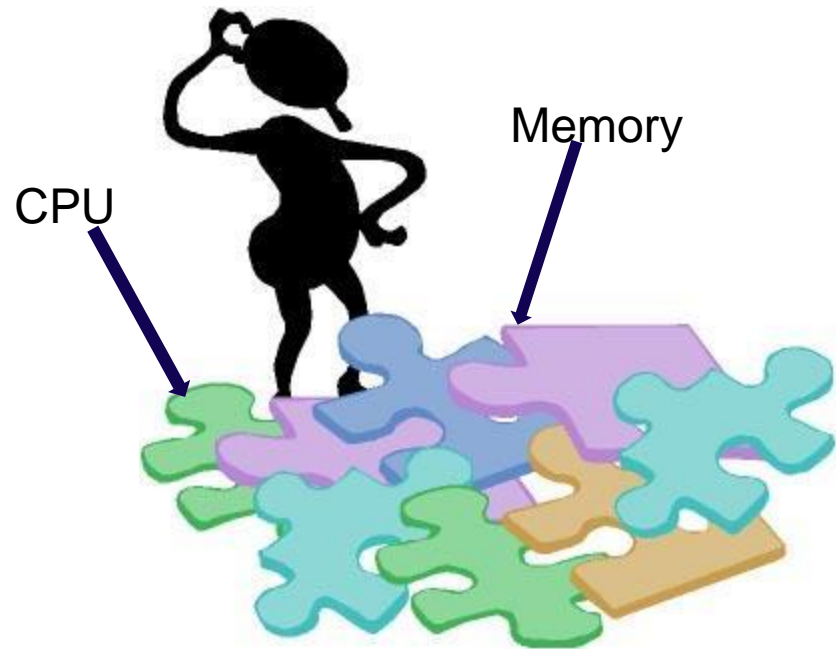
The Balancing Act



6. Only change one thing at a time (and document it)



Managing resources



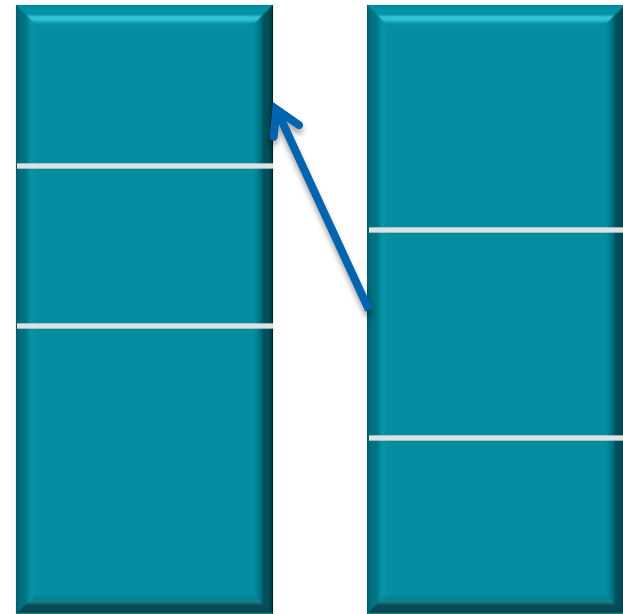
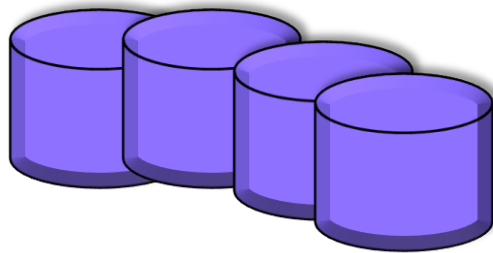
What's the impact?



Change log

Date	Time	Change	Benefit Expected	Actual Result

7 – Use cheap resources instead of expensive ones, and borrow, don't buy



8 – The best I/O is no I/O

User tuning

Application
tuning

Buffering

Data in
memory

Database
Tuning

Can you tune a user?



9 – Understand your metrics (and statistics)

What is CPU busy?

WHAT IS THE CONFIGURATION?

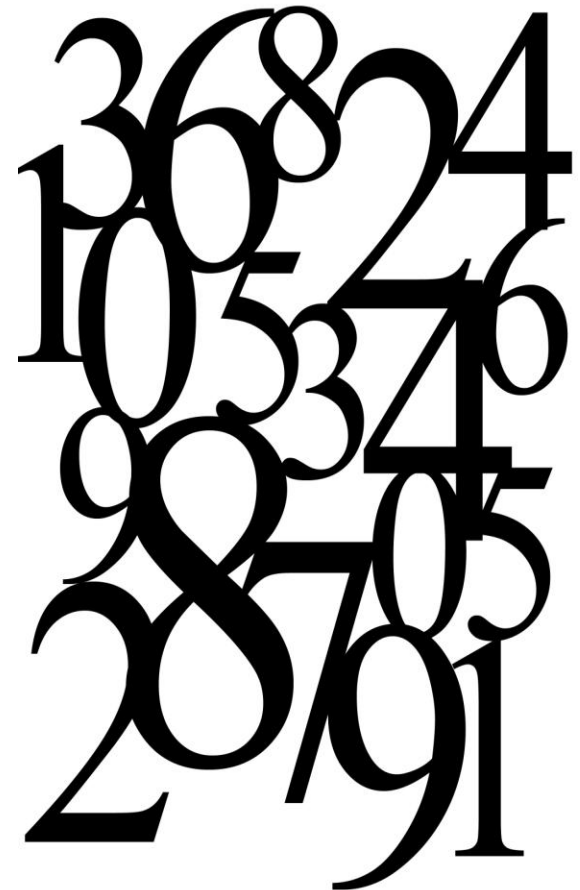
Where does work run?

Who talks to who?

What are your workload patterns?

What metrics matter?

What metrics can't you get?



Workload characteristics

**WHICH
DATABASE?**

**CPU
DEMAND?**

**How
MANY
I/Os?**

**HOMOGENEOUS
TRANSACTIONS?**

**How
MANY
HOPS?**

**WHERE
DOES IT
RUN?**



PATTERN?

VOLUME?

Limits



- ❖ What is an average?
- ❖ How important is standard deviation?
- ❖ What is the summarization level?
- ❖ What is summarized?
- ❖ Correlation? Cause & effect?
- ❖ Change analysis?
- ❖ Forecasting?

10 - Communicate



“If wisdom were offered me with this restriction, that I should keep it close and not communicate it, I would refuse that gift.”

- Seneca

Options



Print - Show all Details Excel - CSV - XML - Text

Order ID	Order Date	Freight	Ship Name	Ship Country
31 10278	9/22/1994	\$52.89	Berglunds snabbkop	Sweden

OrderID	Price	Quantity	Discount
10278	\$15.50	16	0%
10278	\$44.00	15	0%
10278	\$35.10	8	0%
10278	\$12.00	25	0%

Order ID	Order Date	Freight	Ship Name	Ship Country
32 10279	9/13/1994	\$25.83	Lehmann	
33 10280	9/14/1994	\$8.59	Berglund	
34 10281	9/14/1994	\$2.94	Romero	
35 10282	9/15/1994	\$12.69	Romero	
36 10283	9/16/1994	\$84.81	LILA-Sup	
37 10284	9/19/1994	\$76.56	Lehmann	
38 10285	9/20/1994	\$76.83	QUICK-C	
39 10286	9/21/1994	\$29.24	QUICK-C	
40 10287	9/22/1994	\$12.76	Ricardo	

Page 4 of 83 (829 rows) < First ... 4 1 2 3 [4] 5 6 7 >

Mid Year Sales Review

ASP Report Wizard - Microsoft Internet Explorer

Chart options:

Select a graph type

Basic Stacked Relative show graph & report show graph only

ASP Report Wizard - Microsoft Internet Explorer

Select

Basic Cros

Add summaries to your report

Summary Field: [UnitsOnOrder]

Summary type: [Maximum value] Report display options: show summary & report show summary only Add graph

Summary Description: [The maximum amount of a product on order is]

ASP Report Wizard - Microsoft Internet Explorer

Add captions (headers) to field names:

Field Name	Column Caption	Text Format
ProductName	Product	
UnitPrice	Price	Currency \$1,000.00
Discontinued	Discontinued	Yes/No
CompanyName	Supplier	
City	City	
Region	Region	
Phone	Phone 2: 800-555-9000	
HomePage	Supplier Web Site	URL: Webpage link

< Back Next > Refresh



11 – Check your assumptions



A S S U M P T I O N S

**NEVER MAKE THEM. REALITY IS ALWAYS
MUCH, MUCH WORSE.**



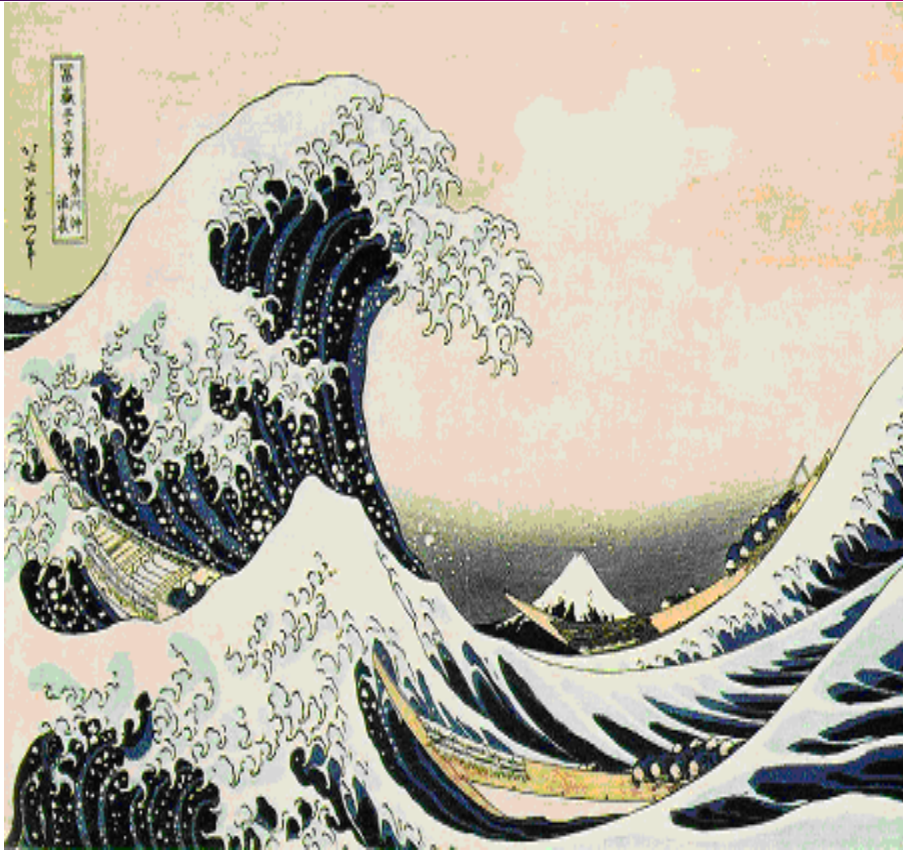
ASSUMPTIONS

NEVER ASSUME WHAT YOU'RE TRYING TO PROVE,
UNLESS YOU'RE TRYING TO PROVE YOU'RE A BONEHEAD.

**“Assumption is the mother of the screw-up.”
- Angelo Donghia**

Questions?

Summary



The 10 KPRs

thank you

Denise.Kalm@ca.com