Fear & Loathing In Automation-Land

Capacity and Performance in the 21st Century
Session # 12286
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Abstract

Remember when you only had a handful of servers or a single mainframe to manage? Back in those days, we also had teams of experts working on capacity and performance management. Now, one person is managing 1000’s of servers, at least one private cloud, virtualization and more with changes being applied to the system every day, if not every hour. It isn’t possible to manage as you have in the past – you need to change the game, eliminating manual processes wherever possible. Learn how to work smarter and have more fun on the job by letting go of the past and venturing boldly into the future of capacity planning. Build a vision and the management skills to create it.
“Some people will tell you that slow is good – but I’m here to tell you that fast is better. I’ve always believed this, in spite of the trouble it’s caused me. Being shot out of a cannon will always be better than being squeezed out of a tube. That is why God made fast motorcycles, Bubba...”

— Hunter S. Thompson, Kingdom of Fear: Loathsome Secrets of a Star-crossed Child in the Final Days of the American Century
The Rise of the Machines
The Olden Days

- 20 years
- RTFM
- Hands-on
- Career capacity/performance people
Personal Admissions

- Harvard Graphics
- Shell scripts
- Maestro
Scope Change

- Server Farms
- Downsizing
- Variety
- SOA
- SaaS
- Cloud
- New People
“Yesterday's weirdness is tomorrow's reason why.”

— Hunter S. Thompson, The Curse of Lono
The Nay-Sayers
INNOVATION
If it can make your job easier, it can probably make it irrelevant.
DIYers
Command-Line Junkies

```
chmod -x `which chmod`
cat /dev/random | sort
```
Fearful Pre-Retirees
Vendor Haters

VENDORS
The Old-Timer
“You can't miss what you never had.”

— Hunter S. Thompson, *Polo Is My Life*
OR

“I have a theory that the truth is never told during the nine-to-five hours.”
—Hunter S. Thompson
Automation
“On some days you get what you want, and on others, you get what you need.”

— Hunter S. Thompson, Kingdom of Fear: Loathsome Secrets of a Star-crossed Child in the Final Days of the American Century
The Essential Questions

What are you doing today that you don’t need to be doing?

What could you be doing if it weren’t so hard to do it?
Outsourcing to Software

![Diagram showing a quadrant model with axes: Strategic vs. Neglected Zone, Hard vs. Easy. The quadrant is divided into four sections: Strategic and Neglected Zone, Strategic and Easy, Hard and Neglected Zone, and Hard and Easy. The Strategic and Neglected Zone is further highlighted as the 'Low Hanging Fruit Zone.' Additionally, there is a note: 'Not Supportive of Most Important Goals.']
Data Management

- Data Collector
- CDB/CMIS
- CMDB
- Discovery
End User Experience Monitoring
“A man who procrastinates in his choosing will inevitably have his choice made for him by circumstance.”

Alerting & Remediation
Optimization

The cost of I/O

<table>
<thead>
<tr>
<th>Cache Type</th>
<th>Cycles</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1-cache</td>
<td>3 cycles</td>
</tr>
<tr>
<td>L2-cache</td>
<td>14 cycles</td>
</tr>
<tr>
<td>RAM</td>
<td>250 cycles</td>
</tr>
<tr>
<td>Disk</td>
<td>41,000,000 cycles</td>
</tr>
<tr>
<td>Network</td>
<td>240,000,000 cycles</td>
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</tbody>
</table>
Dashboards & Reporting
Modeling
Arguments

**Against**
- Hardware is cheap
- Modeling takes too long
- Modeling takes an expert
- Produces poor results

**Pro**
- Software licenses cost $$$
- Modern modeling is quick
- And easy
- Check other people’s results
Linear Progression?
Resource Management

- Consolidated Data Collection
- Chargeback Data
- Automated Reporting
- Alerting
- Resource Modeling
- Dynamic workload balancing
Workload Automation/Job Scheduling

1. Batch Window
2. Business Priority
3. SLAs in Batch
4. Critical Path Analysis
5. Event-Triggering
6. Automated Restart/Rerun
7. Automated Tuning
8. Modernization
What’s In It For You?
“When the going gets weird, the weird turn professional.”

— Hunter S. Thompson, Fear and Loathing: On the Campaign Trail '72
“If you're going to be crazy, you have to get paid for it or else you're going to be locked up.”
— Hunter S. Thompson
“A word to the wise is infuriating.”
— Hunter S. Thompson
“THE EDGE, there is no honest way to explain it because the only people who really know where it is are the ones who have gone over.”

— Hunter S. Thompson
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