Enterprise IT Under Siege
How Changing an Automation Paradigm Can Change the Odds

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The Economic Food Chain
The world as it was a long time ago

Agriculture

Armerment

...
The world as it was only yesterday

Finance

Automotive

...
The world as it is today
The Enterprise Disadvantage
Operational spend

70%
Operations
Keeping the lights on
Job Preservation

30%
Change
Redoing Business
Reinvention

Operational spend
A.C.I.D.  Design for avoiding mistakes

B.A.S.E.  Design for rapid recovery

Legacy thinking
Middle management

- Strategic Change
- Self Preservation
- Sheep like Execution
Innovator’s dilemma
How Automation Can Help
Lower cost
Free up minds in the war for talent
Retain knowledge
Classic Automation and why it only went that far
Industrialization
Economies of scale

Cost per Unit vs. Output Unit

Economies of scale
Economies of scale backfire in IT

- Sphere of influence too small to create true standard
- Part of stack that can be consolidated too small
- Lock-in to legacy environments to justify investment
What We’d Actually Need: Smart People
How do smart people work?
A smart Machine that works like an experts
Now for some Voodoo
Less Intrusive
Applicable throughout the stack
Adapts to change
Retains knowledge
How Is this Different
Standard operating procedures, scripts, etc. all look the same: a predefined sequence of steps to be executed.

In Autonomics the results looks much like a script, BUT it actually is a solution specifically compiled automatically to out of all possible permutations of knowledge to solve a specific task.

Same same, but different
1. Go forward 1
2. Turn left
3. Go forward 1
4. Turn Right
5. Go forward 2
6. Turn left
7. Go forward 2
8. Turn Right
9. Go forward 3
10. Turn Right
11. Go forward 1
12. Turn left
13. Go forward 1

Scripts vs. Autonomics – the SOP
Scripts vs. Autonomics – the smart machine
Unexpected events

As AutoPilot approaches this wall it suddenly closes.

And this one opens.

Uncoerected events
<table>
<thead>
<tr>
<th>Storage Management</th>
<th>OpSys Management</th>
<th>Application Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make more disks available to volume manager</td>
<td>Extend operating system volume to make space available to application</td>
<td>Shut down and revive the application for the procedure and know when that is possible</td>
</tr>
</tbody>
</table>

To write an old style automation to perform this ultra simple task these three “cylinders of excellence” have to cooperate, coordinate, etc. – how likely will change be possible?

In Autonomics each expert put in special knowledge, the machine puts it together as needed and no overhead is required.
Results that Matter
Applicability Distribution Throughout the Stack

Application Automation
69.78% of 46,138 Issues
For business applications our automation rate achieved is 69.78%. The graphic below shows the distribution (larger means more) of tickets solved by AutOnot for the respective application type.

Resource Automation
97.67% of 254,298 Issues
For resources our automation rate achieved is 97.67%. The graphic below shows the distribution (larger means more) of tickets solved by AutOnot for the respective application type. Resource:Resource in this depiction stands for individual software solution employed by clients.

Software Automation
87.90% of 988,498 Issues
For business software our automation rate achieved is 87.90%. The graphic below shows the distribution (larger means more) of tickets solved by AutOnot for the respective software type.

Machine Automation
83.85% of 663,975 Issues
For machine types our automation rate achieved is 83.85%. The graphic below shows the distribution (larger means more) of tickets solved by AutOnot for the respective machine type.

arago
<table>
<thead>
<tr>
<th>Technology</th>
<th># Operations Issues</th>
<th>KI Developed</th>
<th>Effort Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platform as a Service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Database (Oracle)</td>
<td>237</td>
<td>58</td>
<td>62%</td>
</tr>
<tr>
<td>Infrastructure as a Service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows</td>
<td>330</td>
<td>47</td>
<td>59%</td>
</tr>
<tr>
<td>Linux/Unix</td>
<td>280</td>
<td>113</td>
<td>69%</td>
</tr>
<tr>
<td>Storage/Network</td>
<td>325</td>
<td>150</td>
<td>26%</td>
</tr>
<tr>
<td>Total</td>
<td>1172</td>
<td>368</td>
<td>35%</td>
</tr>
</tbody>
</table>

Learning curve of system after 3 months in this environment
## Business Case

<table>
<thead>
<tr>
<th>Category</th>
<th>Before</th>
<th>Traditional</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td>50,79</td>
<td>50,79</td>
<td>26,84</td>
</tr>
<tr>
<td>Backup</td>
<td>68,68</td>
<td>68,68</td>
<td>43,63</td>
</tr>
<tr>
<td>Compute (incl. NW)</td>
<td>69,93</td>
<td>69,93</td>
<td>28,80</td>
</tr>
</tbody>
</table>
| OpSys               | 30,88  | 30,88       | 5,98 | 8,14% savings
| Database            | 15,29  | 15,29       | 9,29 |
| Middleware          | 21,14  | 21,14       | 13,81|
| Manpower            | 48,28  | 33,80       | 24,27|
| Special Bids        | 51,62  | 36,13       | 38,08|
| **Total Mio €**     | **356,62** | **326,65** | **190,70** |

Case study on a 3 year operating budget:
Before 356M€
After 191M€
Savings 46,34%

*Business case on traditional automation was 8,14% savings*
Thank you for your time which we hope was well invested, because dismissing good ideas can harm your future.