Red Hat Summit

Driving efficiency during energy challenged times

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Red Hat

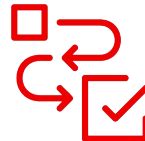# What will our clients be focussed on in the coming year?

cloud migration

automation

security

modernisation

innovation / ttv

What will our clients be focussed on in the coming year?

COSTS!

cloud migration

automation

security

modernisation

innovation / ttv

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Themes

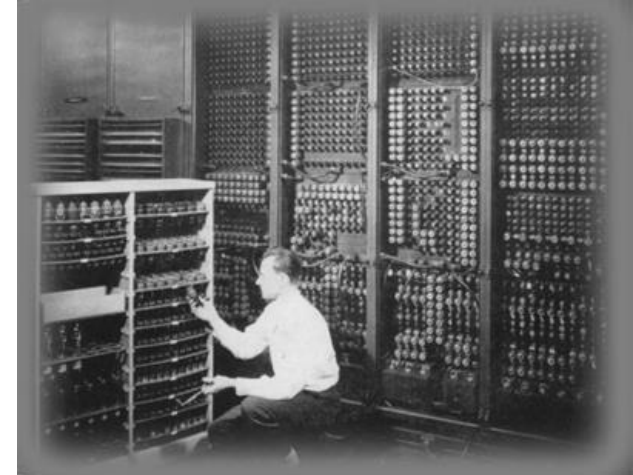legacy migrations

in-place upgrades

container adoption

scale out / in

manage cloud costs

Legacy Migrations

➤ The maintenance of old Solaris / AIX is getting progressively more expensive

➤ OS Investment has been largely scaled back meaning they are a security target

➤ Replacement hardware getting harder to find / more expensive

➤ Unix loads run on Linux using hardware that is typically 75% cheaper

➤ A RHEL subscription is on average 60% cheaper than licensing the UNIX it replaces

The Process

Current Application

Application V2
Database V1
Libraries V1

Unsupported State

Application V2
Database V2
Libraries V1

Unsupported State

Application V2
Database V2
Libraries V2

Supported State

Application V2
Database V3
Libraries V3

Solaris 8

Solaris10

RHEL 7

RHEL 8

Upgrades (in-place / failover)

- ➤ ELS costs are mounting up
- ➤ Risk is becoming an important driver, due to Cyber Resilience regulations
- ➤ The longer it's put off the bigger the migration

- ➤ Extra cost savings can be made by migrating to RHEL for VDC
- ➤ Save costs by not having to use swing servers / storage
- ➤ Doing it early and often reduces the cost of rushed / unplanned upgrades
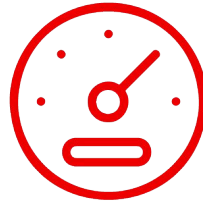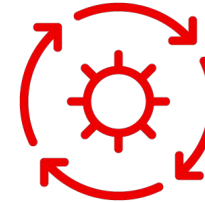
Methodology at a glance

Inform

Batch run precheck assessment resulting in a published periodic readiness check aligned to application owners
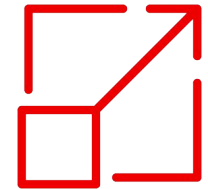
Accelerate

Enhanced tooling offering workload upgrades to set up for the new landing zone.

Remediate

Crowd sourced repository of pattern based automation to assist application team with integration remediation
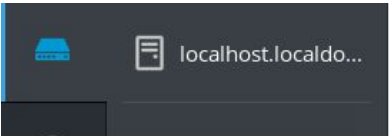
Scale / Abstract

Create a culture of self service and crowdsourcing to federated system for scaling.
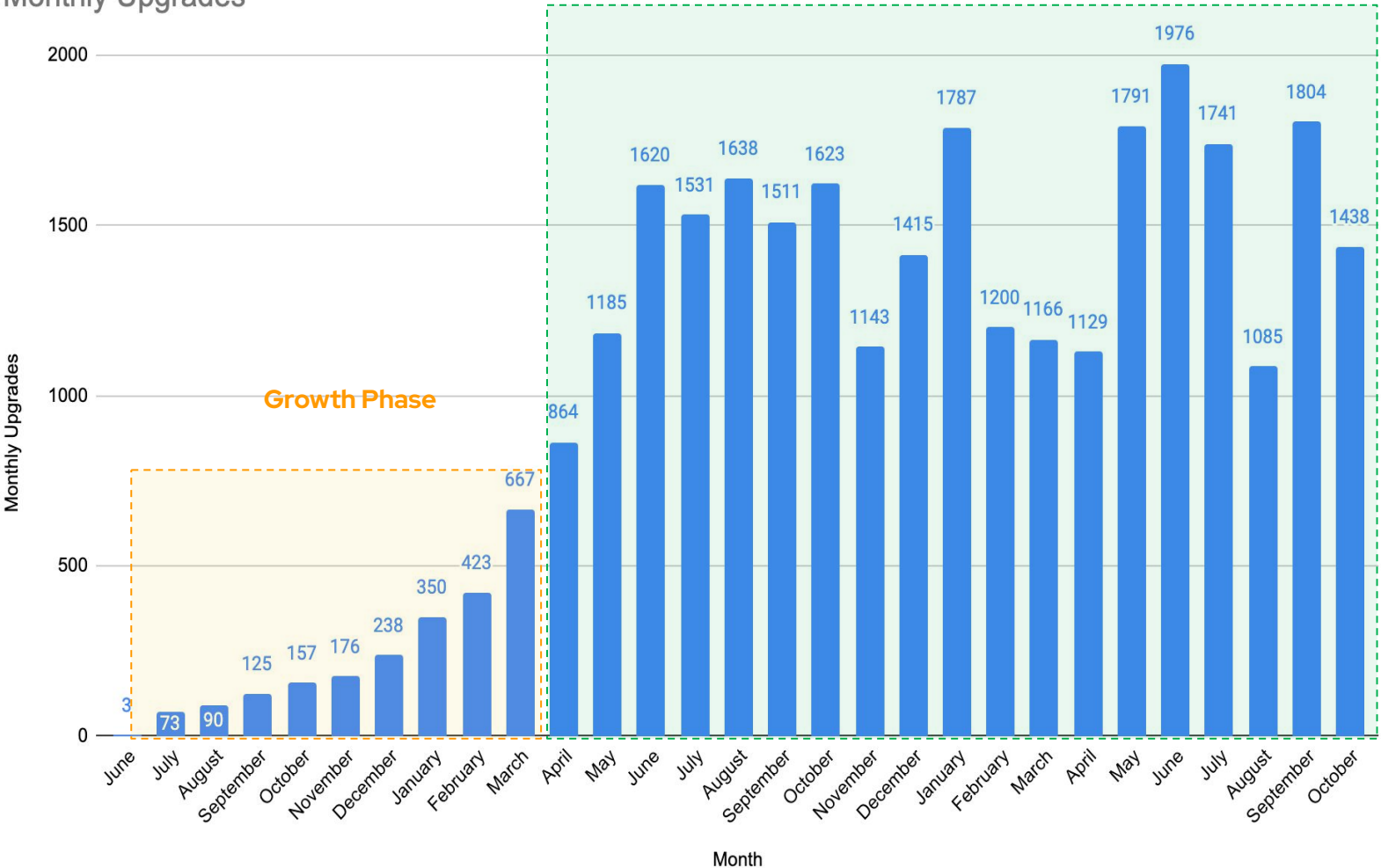
Previous Customer Upgrades

In-Place Upgrade Report for: localhost.localdomain

Operationalized

Remediation plan (0)   + Add all remediations to plan (1)

Monthly Upgrades

Growth Phase

Bar chart values (left to right):
June: 3
July: 73
August: 90
September: 125
October: 157
November: 176
December: 238
January: 350
February: 423
March: 667
April: 864
May: 1185
June: 1620
July: 1531
August: 1638
September: 1511
October: 1623
November: 1143
December: 1415
January: 1787
February: 1200
March: 1166
April: 1129
May: 1791
June: 1976
July: 1741
August: 1085
September: 1804
October: 1438

Y-axis: Monthly Upgrades (0, 500, 1000, 1500, 2000)
X-axis: Month

	Time
rocess	26.08.2019 15:18:04
ation security network services	26.08.2019 15:23:56
ation security network services	26.08.2019 15:23:56
	26.08.2019 15:23:57
cryption	26.08.2019 15:23:59
ation security network services	26.08.2019 15:23:59
time management	26.08.2019 15:23:57
email	26.08.2019 15:23:58
rocess	26.08.2019 15:23:58
security	26.08.2019 15:23:58

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Scale Out / Scale In

- ➢ This is what cloud is for, right?
- ➢ Some VM's always running only ever used for batch processing
- ➢ Test / UAT environments don't need to run 24/7
- ➢ Energy consumption becoming more expensive inside DC's

- ➢ Can be complex to design / apply
- ➢ Must have robust infrastructure-as-code setup
- ➢ Automation necessary to make it work
- ➢ Oversight and governance required to resolve

Total VMs	1000
Approx cost / month	£25
Current service time in hours / week (24 x 7)	168
Reduced service time (5 x 12)	60
Reduce percentage consumption	*36%*
Current cost per annum (1000 x £25 x 12)	£300,000
Reduced service cost (36% of 300,000)	£108,000
Annual savings	**£192,000**
ESG score	**++++**

Managing Cloud Costs

➢ It's easy to get carried away with all the latest features

➢ Many VM's in the Cloud are overspec'd (so under utilised)

➢ Need a reliable way to "right size" them

➢ Need to understand hidden costs like egress

➢ Oversight and governance required to keep costs predictable

➢ Insights includes "Resource Optimization" which helps identify under-utilised VMs

➢ See "Cost Management" session in the cloud and cloud services track at 3:30

➢ Need to have good understanding of your data movement patterns
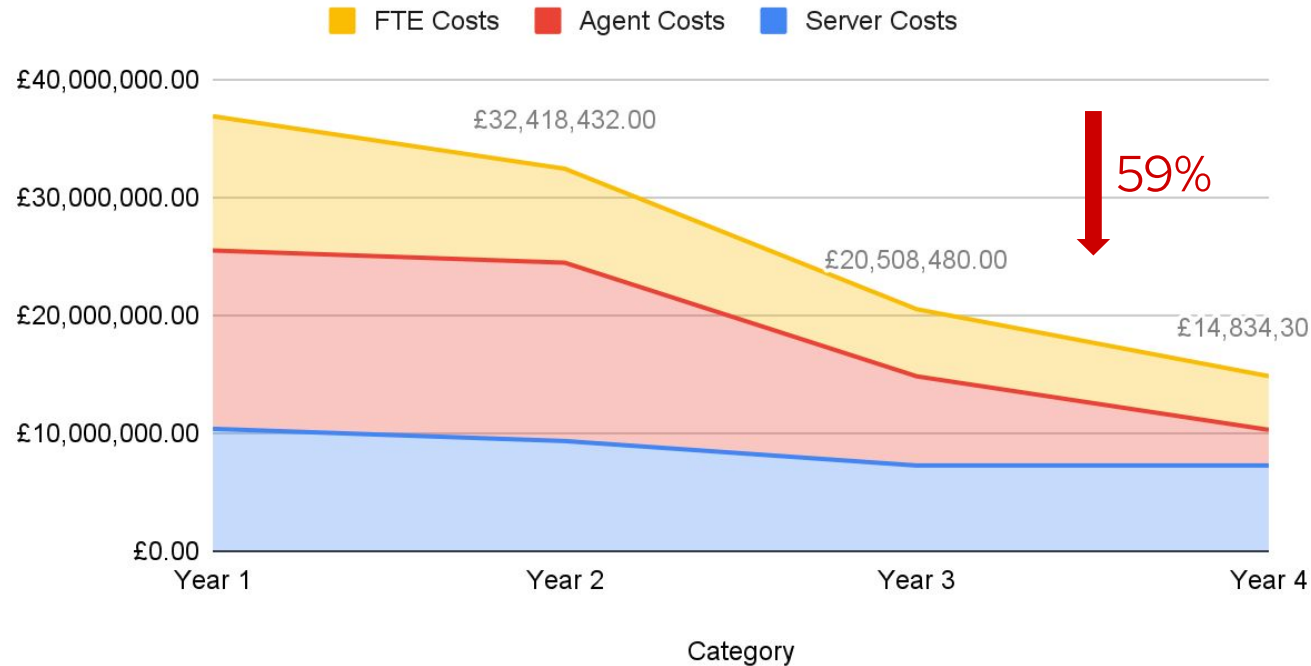
➢ Hybrid Cloud?

Increase Usage of Containers

➢ Often VMs have very low utilisation

➢ Some machines / VMs have > £1,500 worth of agents (infra monitoring, hypervisor tools, security agents etc)

➢ Management overhead of hundreds / thousands of servers very high

➢ Containerisation, even on a VM, massively increases utilisation

➢ Immutable containers will need less agents, further reducing costs

➢ Application management platform (Red Hat OpenShift) reduces FTE costs

Increase usage of containers
Reduction in OPEX/CAPEX

Annual Runrate YoY

Legend: FTE Costs (yellow), Agent Costs (red), Server Costs (blue)

- £32,418,432.00
- £20,508,480.00
- £14,834,30
- 59% (reduction indicated by red arrow)

Example based on 80,000 nodes *(existing OpenShift customer)*

Category	Year 1	Year 2	Year 3	Year 4
Server Costs	£10,368,000.00	£9,331,200.00	£7,257,600.00	£7,257,600.00
Agent Costs	£15,120,000.00	£15,120,000.00	£7,560,000.00	£3,024,000.00
FTE Costs	£11,381,760.00	£7,967,232.00	£5,690,880.00	£4,552,704.00
Total Costs	£36,869,760.00	£32,418,432.00	£20,508,480.00	£14,834,304.00

Cost Savings

- 30% Reduction in Hardware
- 69% Reduction in Software
- 59% Reduction in OPEX

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Summary

➢ Legacy Migrations – do them if you can

➢ In Place Upgrades – do them all the time (early)

➢ Scale In / Scale Out – ensure governance and use automation

➢ Managing Cloud Costs – automation / governance

➢ Increasing use of Containers – use them more!

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Thank you

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