PADDYPOWER. **betfair**

Running and maintaining Paddy Power Betfair's OpenStack Cloud

Adrian Miron - About me

Devops

Infrastructure Engineer

Senior Infrastructure Engineering Manager

Thomas Andrew - About me

Developer

Development Manager

Cloud Populator

Head of Cloud Automation

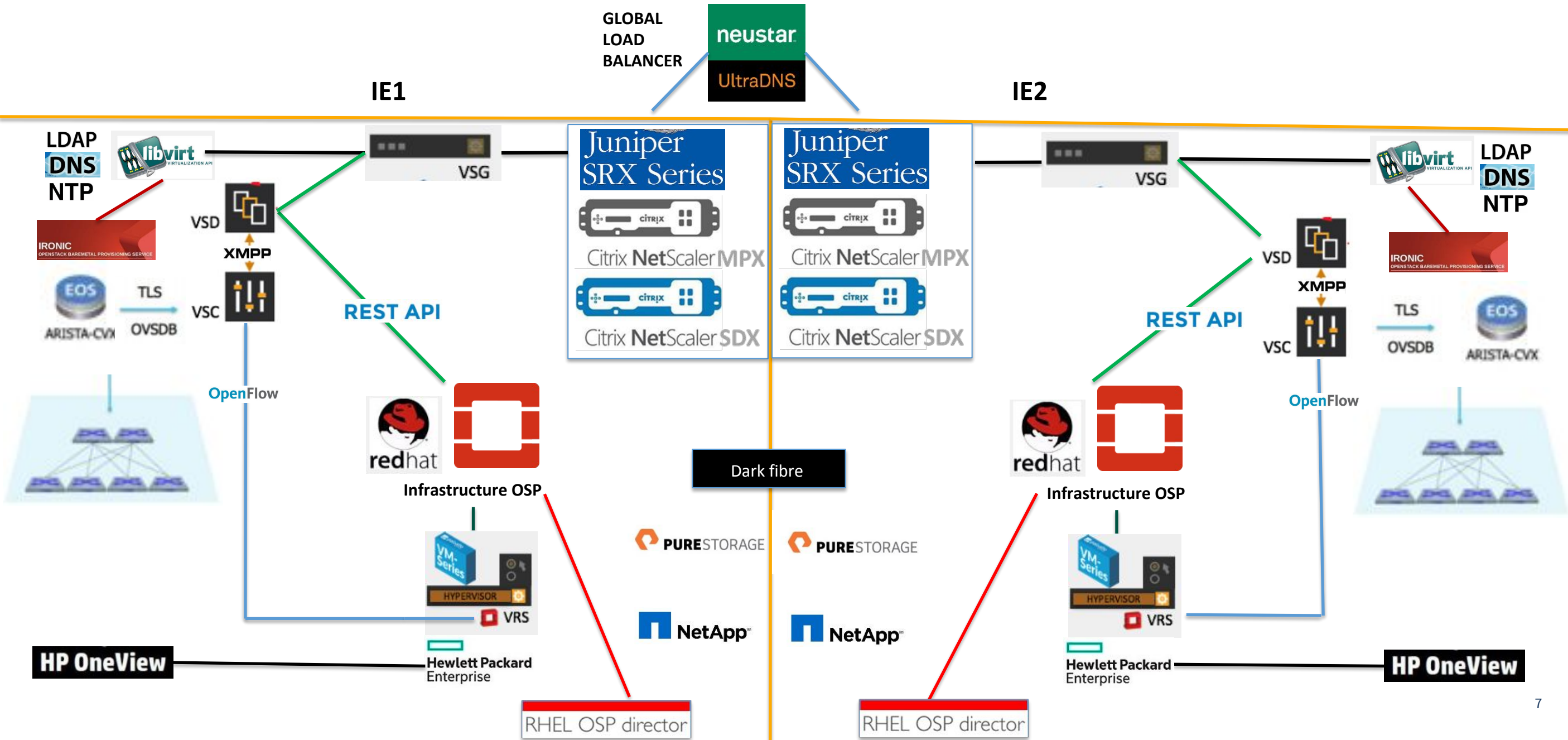@GingerSeagull

PAUL NEEDLE

About me

- ❏ Red Hat Principal Technical Account Manager

- ❏ Current focus on OpenStack Platform and OpenShift Container Platform

- ❏ Nine years experience as a Red Hat TAM

- ❏ Providing OpenStack Cloud TAM services to Paddy Power Betfair for 3+ years

Technologies Used

Our OpenStack Cloud - i2

DevOps Borat @DEVOPS_BORAT · 8 Feb 2013

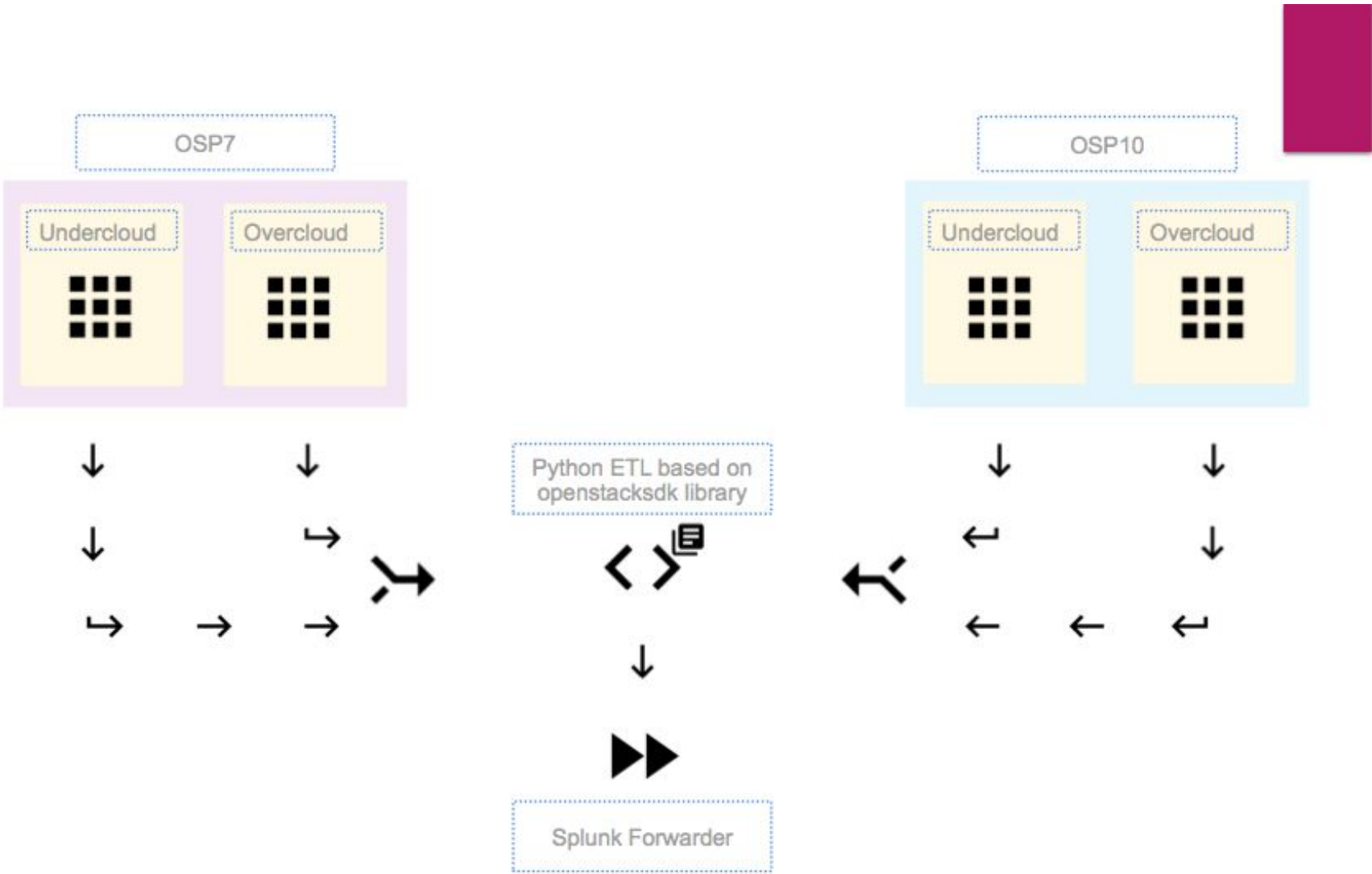In startup we are celebrate teamwork by create **many team of one**.

💬 3   🔁 174   ♡ 77   ✉

Our OpenStack Cloud - An example

IE1-PUREOSP01-INF		IE1-PUREOSP02-INF		IE1-PUREOSP03-INF		IE1-PUREOSP04-INF		IE1-PUREOSP05-LAB	
FA-m20	Purity 4.9.5	FA-m20r2	Purity 4.9.5	FA-m20r2	Purity 4.9.5	FA-m20r2	Purity 4.9.5	FA-m20r2	Purity 4.9.5

IE1-PUREOSP01-INF — FA-m20, Purity 4.9.5
- 60% (18.1 / 30.2 T) — 3.0 to 1 Data Reduction
- Latency (ms): R 0.45 | W 0.72
- IOPS 5.2 K | Bandwidth 184.8 MB/s

IE1-PUREOSP02-INF — FA-m20r2, Purity 4.9.5
- 17% (0.9 / 5.6 T) — 6.0 to 1 Data Reduction
- Latency (ms): R 0.45 | W 0.31
- IOPS 2.9 K | Bandwidth 84.6 MB/s

IE1-PUREOSP03-INF — FA-m20r2, Purity 4.9.5
- 52% (2.9 / 5.6 T) — 3.2 to 1 Data Reduction
- Latency (ms): R 0.48 | W 15.08
- IOPS 20.5 K | Bandwidth 414.0 MB/s

IE1-PUREOSP04-INF — FA-m20r2, Purity 4.9.5
- 62% (3.5 / 5.6 T) — 4.7 to 1 Data Reduction
- Latency (ms): R 0.46 | W 0.86
- IOPS 4.8 K | Bandwidth 329.6 MB/s

IE1-PUREOSP05-LAB — FA-m20r2, Purity 4.9.5
- 28% (3.1 / 11.2 T) — 4.4 to 1 Data Reduction
- Latency (ms): R 0.29 | W 0.25
- IOPS 1.5 K | Bandwidth 21.4 MB/s

IE1-PUREOSP06-QA — FA-m20r2, Purity 4.9.5
- 59% (4.2 / 7.2 T) — 2.4 to 1 Data Reduction
- Latency (ms): R 1.00 | W 0.55
- IOPS 2.1 K | Bandwidth 412.7 MB/s

IE1-PUREOSP07-INF — FA-m20r2, Purity 5.0.7
- 2% (0.3 / 16.8 T) — 2.6 to 1 Data Reduction
- Latency (ms): R 0.46 | W 0.21 | MW 0
- IOPS 0.2 K | Bandwidth 4.2 MB/s

IE2-PUREOSP01-INF — FA-m20, Purity 4.9.5
- 54% (16.1 / 30.2 T) — 2.8 to 1 Data Reduction
- Latency (ms): R 0.66 | W 0.78
- IOPS 4.6 K | Bandwidth 213.0 MB/s

IE2-PUREOSP01-LAB — FA-m20, Purity 4.9.5
- 0% (0.0 / 2.8 T) — 1.4 to 1 Data Reduction
- Latency (ms): R 0 | W 0
- IOPS 0 | Bandwidth 0.0 B/s

IE2-PUREOSP02-INF — FA-m20r2, Purity 4.9.5
- 55% (3.1 / 5.6 T) — 2.3 to 1 Data Reduction
- Latency (ms): R 0.32 | W 0.44
- IOPS 4.3 K | Bandwidth 65.2 MB/s

IE2-PUREOSP03-INF — FA-m20r2, Purity 4.9.5
- 48% (2.7 / 5.6 T) — 4.2 to 1 Data Reduction
- Latency (ms): R 0.21 | W 0.39

IE2-PUREOSP04-INF — FA-m20r2, Purity 4.9.5
- 46% (2.6 / 5.6 T) — 2.9 to 1 Data Reduction
- Latency (ms): R 0.43 | W 2.45

IE2-PUREOSP05-LAB — FA-m20r2, Purity 4.9.5
- 75% (8.4 / 11.2 T) — 1.9 to 1 Data Reduction
- Latency (ms): R 0.18 | W 2.16

IE2-PUREOSP06-QA — FA-m20r2, Purity 4.10.5
- 78% (5.6 / 7.2 T) — 1.7 to 1 Data Reduction
- Latency (ms): R 0.84 | W 0.30

IE2-PUREOSP07-INF — FA-m20r2, Purity 5.0.7
- 2% (0.4 / 16.8 T) — 2.4 to 1 Data Reduction
- Latency (ms): R 0.57 | W 0.21 | MW 0

Our OpenStack Cloud - Reporting

i2 Capacity Dashboard

Export ⌄ ...

Cloud/s: ie1-infra-osp7 ✕ ie2-infra-osp7 ✕
Tenant/s: ALL ✕
AZ/s: ALL ✕
Hypervisor: *
Hide Filters

Tenant Totals - (cloud=ie1-infra-osp7 OR ie2-infra-osp7, tenant=*, az=*)

tenant	HVs	VMs	CPU_Cores	allocated_vCPUs	available_disk	allocated_disk	available_memory	allocated_memory	CPU_ratio	disk%	memory%
SportsbookPlatforms	119	1142	9940	9876	198766	51465	60928	18612	1.0	26	31
spare	89	61	7464	520	149075	2674	45568	822	0.1	2	2
mcm	88	2808	7344	18078	146841	68220	45056	19569	2.5	46	43
partners	88	1423	7520	10449	147400	53090	45056	15932	1.4	36	35
sportstrading	69	2020	5960	10756	115575	37892	35328	18236	1.8	33	52
exchange	54	900	4192	7118	90450	39064	27648	13818	1.7	43	50
databases	45	72	5264	634	92327	12050	36352	4114	0.1	13	11
gaming	35	612	2792	2340	44655	18906	17920	4086	0.8	42	23
RiskAndTrading	29	349	2520	1912	48575	15312	14848	5176	0.8	32	35
channels	20	502	1600	3284	20927	10000	10240	4012	2.1	48	39
infra admin	17	40	1496	160	28475	1959	8704	350	0.1	7	4
timeform	11	50	888	172	18425	3020	5632	344	0.2	16	6
sec	8		576		13400		4096				

Tenants by Cloud and AZ (tenant=*)

cloud	tenant	az	HVs	VMs	CPU_Cores	allocated_vCPUs	available_disk	allocated_disk	available_memory	allocated_memory	CPU_ratio	disk%	memory%
ie1-infra-osp7	RiskAndTrading	nxt	3	43	264	220	5025	2044	1536	600	0.8	41	39
ie1-infra-osp7	RiskAndTrading	prd	4	50	352	278	6700	2124	2048	861	0.8	32	42
ie1-infra-osp7	RiskAndTrading	prf	5	40	440	282	8375	2180	2560	867	0.6	26	34
ie1-infra-osp7	RiskAndTrading	qa	2	41	176	172	3350	1276	1024	254	1.0	38	25
ie2-infra-osp7	RiskAndTrading	nxt	3	43	248	220	5025	2044	1536	600	0.9	41	39
ie2-infra-osp7	RiskAndTrading	prd	4	50	336	278	6700	2124	2048	861	0.8	32	42
ie2-infra-osp7	RiskAndTrading	prf	6	40	528	282	10050	2180	3072	867	0.5	22	28
ie2-infra-osp7	RiskAndTrading	qa	2	42	176	180	3350	1340	1024	266	1.0	40	26
ie1-infra-osp7	SportsbookPlatforms	nxt	8	94	672	460	13400	2230	4096	904	0.7	17	22
ie1-infra-osp7	SportsbookPlatforms	prd	38	335	3216	3574	63091	17250	19456	6916	1.1	27	36
ie1-infra-osp7	SportsbookPlatforms	prf	6	75	480	688	10050	6515	3072	1352	1.4	65	44
ie1-infra-osp7	SportsbookPlatforms	qa	7	92	552	364	11725	3020	3584	548	0.7	26	15
ie2-infra-osp7	SportsbookPlatforms	nxt	8	94	672	460	13400	2230	4096	904	0.7	17	22
ie2-infra-osp7	SportsbookPlatforms	prd	37	336	3160	3810	61975	15760	18944	7060	1.2	25	37
ie2-infra-osp7	SportsbookPlatforms	prf	7	19	532	136	11725	810	3584	360	0.3	7	10
ie2-infra-osp7	SportsbookPlatforms	qa	8	97	656	384	13400	3650	4096	568	0.6	27	14
ie1-infra-osp7	channels	nxt	1	25	72	112	278	450	512	130	1.6	162	25
ie1-infra-osp7	channels	prd	6	159	496	1179	7256	3345	3072	1530	2.4	46	50
ie1-infra-osp7	channels	prf	1	19	72	132	278	325	512	102	1.8	117	20
ie1-infra-osp7	channels	qa	2	49	160	223	3350	905	1024	254	1.4	27	25
ie2-infra-osp7	channels	nxt	1	25	72	112	278	450	512	130	1.6	162	25
ie2-infra-osp7	channels	prd	6	156	496	1167	7256	3285	3072	1506	2.4	45	49

DevOps Borat
@DEVOPS_BORAT

Following

Yesterday I have bird and bee discussion with junior devops for make realize cloud instance is born of real hardware.
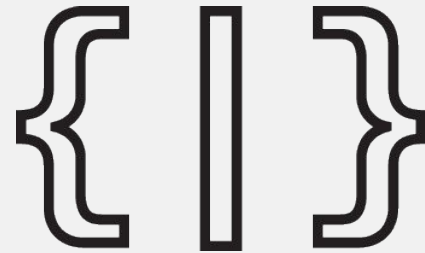
MLAG Issues

Storage Expansion

Firmware Patching

Datacenter Active/Active

Battery Replacement

CPU Spikes

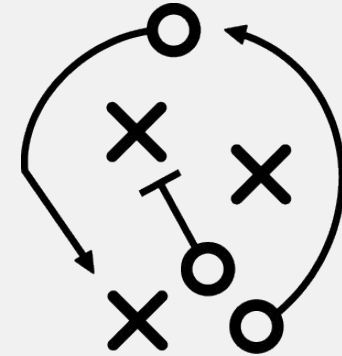Immutable Environment

RED HAT TECHNICAL ACCOUNT MANAGEMENT

Highly technical product specialists who proactively partner with you to achieve operational excellence with Red Hat enterprise solutions

SKILLED

SPECIALIZED

STRATEGIC

redhat.

TAM ENGAGEMENT BACKGROUND

Paddy Power Betfair / Red Hat TAM engagement background

PADDY POWER BETFAIR AND RED HAT'S TAM TEAM WORKING TOGETHER SINCE 2015, FROM OPENSTACK ARCHITECTURAL DESIGN ONWARD

Guided support considerations throughout the i2 OpenStack life cycle

Detailed TAM understanding of i2 architecture applied to support situations

Strengthened support engagement with many teams within Red Hat

Amplified the Paddy Power Betfair i2 story and requirements back into Red Hat

Built strong working relationships with the Paddy Power Betfair team and integrated third parties

RED HAT TECHNICAL ACCOUNT MANAGEMENT | **redhat.**

ENGAGEMENT HIGHLIGHTS

It is a pleasure to work with the team at Paddy Power Betfair because...

True Dev/Ops culture in motion

Awe inspiring team effort towards cloud centric business platform

Highly focussed, industry leading experts at Paddy Power Betfair

Paddy Power Betfair make us feel like part of the team

Bi-directional, open communication helps us maximise TAM contribution to Paddy Power Betfair's success

RED HAT
TECHNICAL ACCOUNT
MANAGEMENT | redhat.

Our OpenStack Cloud - A Success
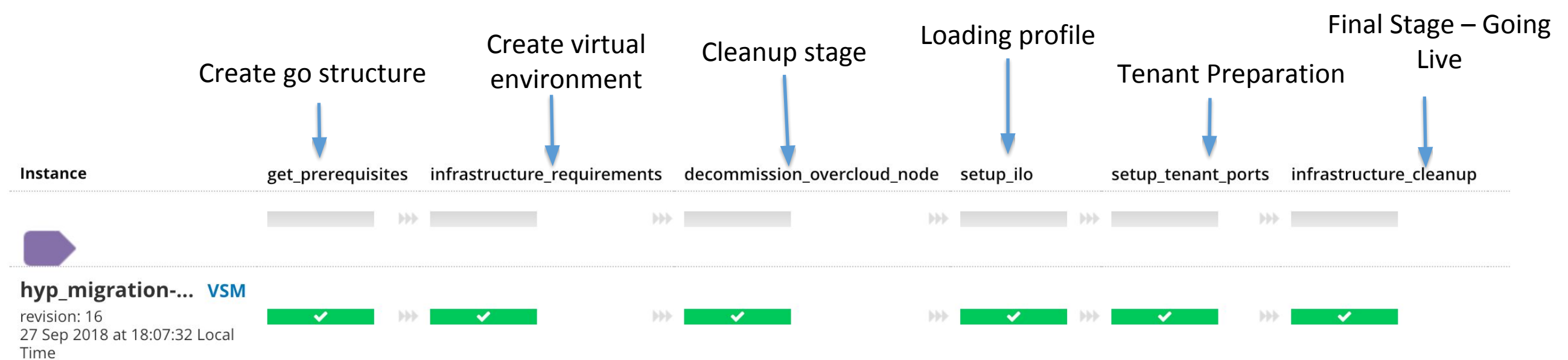
Migration from OSP7 to OSP10

ie1_hyp_migration_prd ⚙

Instance: hyp_migration-man...

Compare | Changes ▼ | VSM

Triggered by puriceo
on 27 Sep 2018 at 18:07:32 Local Time
Passed: infrastructure_cleanup

Create go structure

Create virtual environment

Cleanup stage

Loading profile

Tenant Preparation

Final Stage – Going Live

Instance	get_prerequisites	infrastructure_requirements	decommission_overcloud_node	setup_ilo	setup_tenant_ports	infrastructure_cleanup

hyp_migration-... VSM
revision: 16
27 Sep 2018 at 18:07:32 Local Time

Q&A