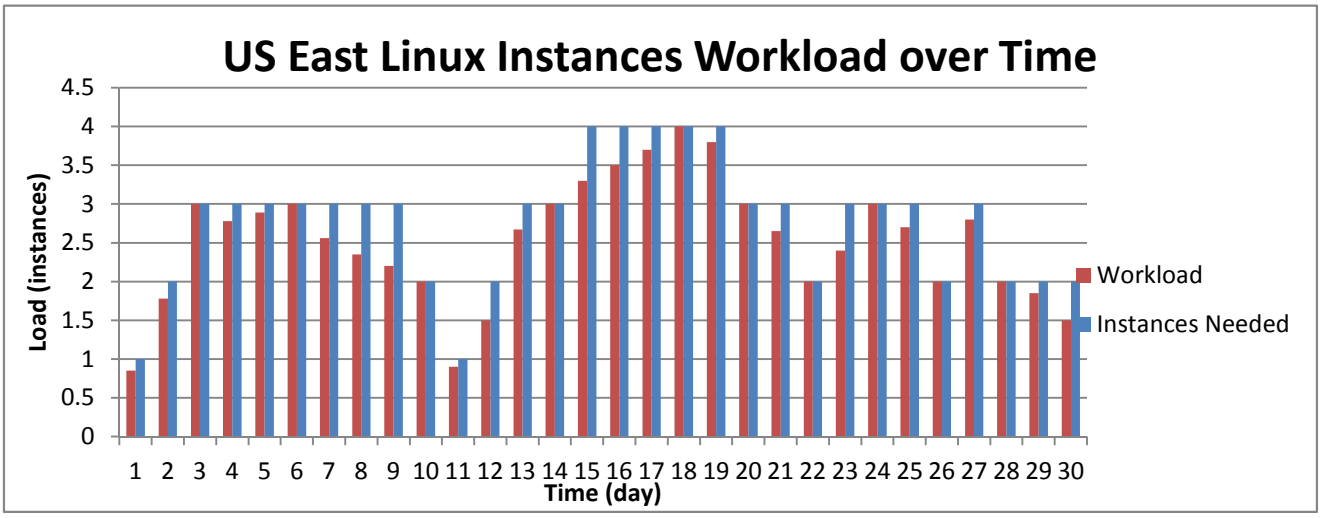
Workload Example



Instances needed per Day

Day	Workload	Number of Instances
1.0000	0.85	1
2.0000	1.78	2
3.0000	3	3
4.0000	2.78	3
5.0000	2.89	3
6.0000	3	3
7.0000	2.56	3
8.0000	2.35	3
9.0000	2.2	3
10.0000	2	2
11.0000	0.9	1
12.0000	1.5	2
13.0000	2.67	3
14.0000	3	3
15.0000	3.3	4
16.0000	3.5	4
17.0000	3.7	4
18.0000	4	4
19.0000	3.8	4
20.0000	3	3
21.0000	2.65	3
22.0000	2	2
23.0000	2.4	3
24.0000	3	3
25.0000	2.7	3
26.0000	2	2

27.0000	2.8	3
28.0000	2	2
29.0000	1.85	2
30.0000	1.5	2

Sum	83

What is the Optimal Division between Reserved and On-Demand Instances?

We first have a look at the possibility of having only on-demand instances
The total price would be 83*0.085*24=169.32 dollar
Which is a lot smaller than the price to reserve an instance for a year (227.50)
So here the optimal solution is taking only on-demand instances.
Let's have a look at the result when we repeat the workload during a year

No (0) Reserved Instances	Number	Cost
On-Demand:	83	2060.06
Reserved:	0	0
Total:	83	2060.06

1 Reserved Instance	Number	Cost
On-Demand:	53	1315.46
Reserved:	30	490.3
Total:	83	1805.76

2 Reserved Instances	Number	Cost
On-Demand:	25	620.5
Reserved:	58	963.08
Total:	83	1583.58

3 Reserved Instances	Number	Cost
On-Demand:	5	124.1
Reserved:	78	1365.78
Total:	83	1489.88

All (4) Reserved Instances	Number	Cost
On-Demand:	0	0
Reserved:	83	1637.08
Total:	83	1637.08

Setup	Total Price
All On-Demand Instances	2060.06
1 Reserved Instance	1805.76
2 Reserved Instances	1583.58
3 Reserved Instances	1489.88
All (4) Reserved Instances	1637.08

So, for this example the optimal (smallest total cost)
solution is to take 3 reserved instances

How do we get the Optimal Division betw Reserved and On-Demand Instances?

According to the table on the previous sheet you're better of when choosing for a reserved instance
when it will be used more than 47.22 % of the time.
So, the following table answers whether we'll use x instances according to
the given workload for more than 47.22 % of the time.

x	% of time bigger than x	Answer
0	100	yes
1	100	yes
2	93.33333333	yes
3	66.66666667	yes
4	16.66666667	no
5	0	no

Thus 3 reserved instances will give the optimal (lowest total cost) solution,
since it is the largest number of instances for which the answer is still 'yes'.