

# Reserved Instances (RI) Essentials

# What are Reserved Instances (RI)?

Azure Reserved **Virtual Machine** Instances allow customers to save up to **72%** on IaaS compute by **pre-purchasing** a virtual machine for a **1 or 3-year period**.

# Key RI Attributes

- RI only applies to VMs only
- RI reservation applies at the Data Center level ( not at the subscription level). The only other piece of information needed is the instance type (D12\_v2, for example)  
*PS - RI does not apply to , A-series, Av2-series, and G-series*
- RI reservation is a billing construct, no change to already provisioned VM is needed. Azure Billing team automatically applies discounts to VMs that match the RI purchase.
- A-HUB benefits \*can\* be combined with RI ( for a combined discount of 82%)
- Microsoft does allow RI Swaps, as well as, RI cancellations\*
- RI instances bought through self-service can be swapped with EA and vice versa.

\*\* *Microsoft will charge a small fee. Then for the balance of the value of the RI, the lesser of the retail price or what the customer paid goes back to customer's account overall*

# RI Break Even Calculator ( 1- year commitment)

	A	B	C	D	E	F	G	H	I	J	K	L
1	Hours Per Month		730									
2							Annual					
3	Product Title	Region	Instance Key	Duration	USD	Hourly	100%	80%	60%	40%	30%	
4	D Series	eastus	Standard_D2	1Year	\$ 713	\$0.280	\$2,453	\$1,962	\$1,472	\$981	\$736	
5	D Series	eastus	Standard_D1	1Year	\$ 353	\$0.140	\$1,226	\$981	\$736	\$491	\$368	
6	D Series	westus	Standard_D1	1Year	\$ 466	\$0.140	\$1,226	\$981	\$736	\$491	\$368	
7	D Series	westus	Standard_D2	1Year	\$ 923	\$0.280	\$2,453	\$1,962	\$1,472	\$981	\$736	
8	DS Series	eastus	Standard_DS1	1Year	\$ 353	\$0.140	\$1,226	\$981	\$736	\$491	\$368	
9	DS Series	westus	Standard_DS1	1Year	\$ 466	\$0.133	\$1,165	\$932	\$699	\$466	\$350	
10	DSv2 Series	eastus	Standard_DS4_v2	1Year	\$ 2,172	\$1.120	\$9,811	\$7,849	\$5,887	\$3,924	\$2,943	
11	DSv2 Series	eastus	Standard_DS1_v2	1Year	\$ 270	\$0.140	\$1,226	\$981	\$736	\$491	\$368	
12	DSv2 Series	westus	Standard_DS1_v2	1Year	\$ 373	\$0.133	\$1,165	\$932	\$699	\$466	\$350	
13	DSv2 Series	westus	Standard_DS4_v2	1Year	\$ 2,996	\$1.063	\$9,312	\$7,450	\$5,587	\$3,725	\$2,794	
14	DSv3 Series	eastus	Standard_D2s_v3	1Year	\$ 507		\$0	\$0	\$0	\$0	\$0	
15	DSv3 Series	westus	Standard_D2s_v3	1Year	\$ 695		\$0	\$0	\$0	\$0	\$0	
16	Dv2 Series	eastus	Standard_D1_v2	1Year	\$ 270	\$0.140	\$1,226	\$981	\$736	\$491	\$368	
17	Dv2 Series	eastus	Standard_D2_v2	1Year	\$ 541	\$0.280	\$2,453	\$1,962	\$1,472	\$981	\$736	
18	Dv2 Series	westus	Standard_D1_v2	1Year	\$ 373	\$0.133	\$1,165	\$932	\$699	\$466	\$350	
19	Dv2 Series	westus	Standard_D2_v2	1Year	\$ 747	\$0.266	\$2,330	\$1,864	\$1,398	\$932	\$699	
20	Dv3 Series	eastus	Standard_D2_v3	1Year	\$ 507	\$0.192	\$1,682	\$1,346	\$1,009	\$673	\$505	
21	Dv3 Series	westus	Standard_D2_v3	1Year	\$ 695	\$0.209	\$1,831	\$1,465	\$1,099	\$732	\$549	
22												
23												
24	Hourly costs - standard from Azure pricing calculator											
25	Approx 30% utilization is comparable to annual RI costs											
26	Any cost reduction on hourly may not be passed on to RI (commitment)											
27												

30% annual usage for an on-demand VM == 1 year RI commit

# RI Break Even Calculator ( 3- year commitment)

1	Hours Per Month	730										
2							3 Years					
3	Product Title	Region	Instance Key	Duration	USD	Hourly	100%	80%	60%	40%	20%	
4	D Series	eastus	Standard_D2	3Years	\$ 1,373	\$0.28	\$7,358	\$5,887	\$4,415	\$2,943	\$1,472	
5	D Series	eastus	Standard_D1	3Years	\$ 687	\$0.14	\$3,679	\$2,943	\$2,208	\$1,472	\$736	
6	D Series	westus	Standard_D1	3Years	\$ 884	\$0.14	\$3,679	\$2,943	\$2,208	\$1,472	\$736	
7	D Series	westus	Standard_D2	3Years	\$ 1,768	\$0.28	\$7,358	\$5,887	\$4,415	\$2,943	\$1,472	
8	DS Series	eastus	Standard_DS1	3Years	\$ 687	\$0.14	\$3,679	\$2,943	\$2,208	\$1,472	\$736	
9	DS Series	westus	Standard_DS1	3Years	\$ 884	\$0.13	\$3,495	\$2,796	\$2,097	\$1,398	\$699	
10	DSv2 Series	eastus	Standard_DS4_v2	3Years	\$ 4,224	\$1.12	\$29,434	\$23,547	\$17,660	\$11,773	\$5,887	
11	DSv2 Series	eastus	Standard_DS1_v2	3Years	\$ 531	\$0.14	\$3,679	\$2,943	\$2,208	\$1,472	\$736	
12	DSv2 Series	westus	Standard_DS1_v2	3Years	\$ 716	\$0.13	\$3,495	\$2,796	\$2,097	\$1,398	\$699	
13	DSv2 Series	westus	Standard_DS4_v2	3Years	\$ 5,731	\$1.06	\$27,936	\$22,349	\$16,761	\$11,174	\$5,587	
14	DSv3 Series	eastus	Standard_D2s_v3	3Years	\$ 988		\$0	\$0	\$0	\$0	\$0	
15	DSv3 Series	westus	Standard_D2s_v3	3Years	\$ 1,334		\$0	\$0	\$0	\$0	\$0	
16	Dv2 Series	eastus	Standard_D1_v2	3Years	\$ 531	\$0.14	\$3,679	\$2,943	\$2,208	\$1,472	\$736	
17	Dv2 Series	eastus	Standard_D2_v2	3Years	\$ 1,062	\$0.28	\$7,358	\$5,887	\$4,415	\$2,943	\$1,472	
18	Dv2 Series	westus	Standard_D1_v2	3Years	\$ 716	\$0.13	\$3,495	\$2,796	\$2,097	\$1,398	\$699	
19	Dv2 Series	westus	Standard_D2_v2	3Years	\$ 1,433	\$0.27	\$6,990	\$5,592	\$4,194	\$2,796	\$1,398	
20	Dv3 Series	eastus	Standard_D2_v3	3Years	\$ 988	\$0.19	\$5,046	\$4,037	\$3,027	\$2,018	\$1,009	
21	Dv3 Series	westus	Standard_D2_v3	3Years	\$ 1,334	\$0.21	\$5,493	\$4,394	\$3,296	\$2,197	\$1,099	
22												
23	Hourly costs - standard from Azure pricing calculator											
24	Approx 20% utilization is comparable to 3year RI costs											
25	Any interest incurred from initial payment (?) not factored in											
26	Any cost reduction on hourly may not be passed on to RI (commitment)											
27												

20% annual (for 3 yrs) usage for an on-demand VM == 3 year RI commit

# RI Rollout Planning

- Develop an RI guidance based on expected use
- Standardize around a \*few\* VM instance types
  - Avoid complexities - “worrying if the machine being shutdown is an RI instance”
- Develop an initial reservation guidance based on a report of Billing VMs

Data Center	Instance Type	#

# Other RI considerations

- Future price drops by the Azure team are not available
- Consider the differences between RI and auto/ scheduled scaling
- Does not apply to Cloud Services
- Accrued interest on pre-commit payments ( applies to EA\*\* customers as well )

*\*\*Reserved VM Instances will first deduct from a customer's monetary commitment balance in the month the purchase was made.*