

# MOC Usage Report

Institution: Boston University

#### **Institution Details:**

Name: Boston University

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## ${\bf Project:\ BU\_CCC18\_OpenStack\_in\_Kubernetes}$

Table 1: Project Usage Summary

item_definition	count	usage_hours
floating_ip	3	0
VM(,,)	10	5129

Table 2: Project Detailed Usage

item_name	$item\_definition$	Usage_hours
NA	VM(,,)	512.9
NA	VM(,)	512.9
NA	VM(,)	512.9
NA	VM(,,)	512.9
NA	VM(,)	512.9
NA	VM(,,)	512.9
$128.31.25.248 \rightarrow$	floating_ip	0.0
192.168.0.118 128.31.26.66 ->	floating_ip	0.0
192.168.0.109 128.31.26.82 ->	floating_ip	0.0
192.168.0.113		

## Project: jwa@bu.edu

Table 3: Project Usage Summary

item_definition	count	usage_hours
floating_ip	1	0.0
$\mathrm{VM}(,,)$	1	8902.4

Table 4: Project Detailed Usage

item_name	$item\_definition$	$Usage\_hours$
NA	VM(,,)	8902.4
$128.31.25.92 \rightarrow$	$floating\_ip$	0.0
192.168.100.13		

## Project: $BU\_CCC18\_Ceph\_tracing$

Table 5: Project Usage Summary

item_definition	count	usage_hours
floating_ip	7	0.00
VM(,,)	9	19964.32

Table 6: Project Detailed Usage

item_name	item_definition	Usage_hours
NA	VM(,,)	169.90
$128.31.25.229 \rightarrow$	floating_ip	0.00
192.168.100.12 NA	VM(,,)	8731.50
128.31.26.124 ->	$floating\_ip$	0.00
192.168.100.13 128.31.25.183 -> 192.168.100.13	floating_ip	0.00
NA	VM(,,)	2.50
NA	VM(,,)	90.00
128.31.25.231 ->	floating_ip	0.00
192.168.100.5 NA	VM(,,)	0.50
$128.31.25.255 \rightarrow$	floating_ip	0.00
192.168.100.4		
NA	VM(,,)	26.00
$128.31.25.231 \rightarrow$	$floating\_ip$	0.00
192.168.100.9 NA	$\mathrm{VM}(,,)$	6153.46
128.31.25.255 ->	floating_ip	0.00
192.168.100.5 NA	VM(,,)	1.50
NA	VM(,,)	4788.96

## ${\bf Project:\ BU\_CCC18\_Security\_as\_a\_Service}$

Table 7: Project Usage Summary

item_definition	count	usage_hours
floating_ip	1	0.0
$\mathrm{VM}(,,)$	1	8902.4

Table 8: Project Detailed Usage

item_name	${\bf item\_definition}$	Usage_hours
NA	VM(,,)	8902.4
128.31.25.216 -> 192.168.0.7	floating_ip	0.0

## ${\bf Project:} \ {\bf BU\_CCC18\_International\_Cloud\_Transactions}$

Table 9: Project Usage Summary

item_definition	count	usage_hours
floating_ip	5	0
VM(,,)	10	89024

Table 10: Project Detailed Usage

item_name	item_definition	${f Usage\_hours}$
NA	VM(,,)	8902.4
NA	VM(,,)	8902.4
NA	VM(,,)	8902.4
NA	$VM(\cdot,\cdot)$	8902.4
NA	VM(,,)	8902.4
NA	VM(,,)	8902.4
NA	$VM(\cdot,\cdot)$	8902.4
NA	$VM(\cdot,\cdot)$	8902.4
NA	$VM(\cdot,\cdot)$	8902.4
NA	VM(",")	8902.4
$128.31.26.1 \rightarrow 192.0.0.19$	floating_ip	0.0
128.31.25.227 ->	floating_ip	0.0
$192.0.0.15 \\ 128.31.26.72 \rightarrow 192.0.0.6$	floating_ip	0.0
128.31.26.61 ->	$floating\_ip$	0.0
192.0.0.27 128.31.26.56 ->	floating_ip	0.0
192.0.0.20		

## Project: robbaron@bu.edu

Table 11: Project Usage Summary

item_definition	count	usage_hours
floating_ip	13	0.00
VM(,,)	20	32241.01
VM(2,4,10)	2	8082.00
VM(4,8,10)	1	4041.00
VM(56,115,10)	3	1537.00
VM(8,16,10)	4	2044.00
VM(8,16,160)	1	4041.00
VM(8,32,10)	8	3586.00
Vol	80	202214.21

Table 12: Project Detailed Usage

$item\_name$	$item\_definition$	$Usage\_hours$
NA	VM(,,)	8902.40
$128.31.26.145 \rightarrow$	floating_ip	0.00
128.31.25.177 -> 10.0.0.8	floating_ip	0.00
NA	Vol	4039.59
NA	Vol	512.91
NA	Vol	4039.59
NA	Vol	2358.49
NA	Vol	4039.59
NA	Vol	4039.59
NA	Vol	512.91
NA	Vol	4039.59
NA	Vol	512.91
NA	Vol	4039.59

Table 12: Project Detailed Usage (continued)

item_name	item_definition	Usage_hours
NA	Vol	512.91
NA	Vol	4039.59
NA	Vol	512.91
NA	Vol	4039.59
NA	Vol	512.91
NA	Vol	4039.59
NA	Vol	102.90
NA	Vol	4039.59
NA	Vol	2358.49
NA	Vol	4039.59
NA	Vol	2358.49
NA	Vol	4039.59
NA	Vol	512.91
NA	Vol	4039.59
NA	Vol	512.91
NA	Vol	512.91
NA	Vol	4039.59
NA	Vol	512.91
NA	Vol	512.91
NA	Vol	512.91
NA	Vol	4039.59
NA	Vol	4039.59
NA	Vol	512.91
NA	Vol	4039.59

Table 12: Project Detailed Usage (continued)

NA         Vol         4039.59           NA         Vol         512.91           NA         Vol         4039.59           NA         Vol         4040.00      <	item_name	item_definition	Usage_hours
NA       Vol       4039.59         NA       Vol       4039.59         NA       Vol       4039.59         NA       Vol       512.91         NA       Vol       4039.59         NA       Vol       512.91         NA       VM(")       4039.59         NA       VM(")       4039.59         NA       VM(")       4039.59         NA       VM(")       4041.00         NA       VM(")       4041.00         NA       VM(")       512.91	NA	Vol	4039.59
NA       Vol       4039.59         NA       Vol       512.91         NA       Vol       2358.49         NA       Vol       4039.59         NA       Vol       512.91         NA       Vol       4039.59         NA       Vol       512.91         NA       Vol       512.91         NA       Vol       512.91         NA       Vol       512.91         NA       Vol       512.91 <td>NA</td> <td>Vol</td> <td>4039.59</td>	NA	Vol	4039.59
NA       Vol       4039.59         NA       Vol       512.91         NA       Vol       2358.49         NA       Vol       4039.59         NA       Vol       512.91         NA       Vol       4039.59         NA       Vol       4039.	NA	Vol	4039.59
NA       Vol       512.91         NA       Vol       2358.49         NA       Vol       4039.59         NA       Vol       512.91         NA       Vol       4039.59         NA       Vol       4039.59         NA       VM(,,)       4039.59         NA       VM(4,8,10)       4041.00         NA       VM(,)       4039.59         NA       VM(2,4,10)       4041.00         NA       VM(,)       512.91         NA       VM(,)       512.91         NA       VM(,)       512.91         NA       VM(8,32,10)       513.00         NA       VM(,)       512.91	NA	Vol	4039.59
NA       Vol       2358.49         NA       Vol       4039.59         NA       Vol       512.91         NA       Vol       512.91         NA       VM(,)       4039.59         NA       VM(4,8,10)       4041.00         NA       VM(,)       4039.59         NA       VM(,)       4039.59         NA       VM(,)       4039.59         NA       VM(,)       4039.59         NA       VM(,)       512.91         NA       VM(,)       512.91         NA       VM(,)       512.91         NA       VM(8,32,10)       513.00         NA       VM(,)       512.91	NA	Vol	4039.59
NA       Vol       4039.59         NA       Vol       512.91         NA       VM(,,)       4039.59         NA       VM(4,8,10)       4041.00         NA       VM(2,4,10)       4041.00         NA       VM(,,)       512.91         NA       VM(,,)       512.91         NA       VM(8,32,10)       513.00         NA       VM(,,)       512.91	NA	Vol	512.91
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	NA	Vol	2358.49
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	NA	Vol	4039.59
NA       Vol       4039.59         NA       VM(")       4039.59         NA       VM(4,8,10)       4041.00         NA       VM(")       4039.59         NA       VM(2,4,10)       4041.00         NA       VM(")       512.91         NA       VM(")       512.91         NA       VM(8,32,10)       513.00         NA       VM(")       512.91	NA	Vol	4039.59
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	NA	Vol	4039.59
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$	NA	Vol	4039.59
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Vol	4039.59
NAVol $512.91$ NAVol $4039.59$ NAVM(,,) $4039.59$ NAVM(4,8,10) $4041.00$ NAVM(,,) $4039.59$ NAVM(2,4,10) $4041.00$ NAVM(,,) $512.91$ NAVM(,,) $512.91$ NAVM(8,32,10) $513.00$ NAVM(,,) $512.91$	NA	Vol	4039.59
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Vol	4039.59
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	NA	Vol	512.91
NA $VM(4,8,10)$ $4041.00$ NA $VM(,,)$ $4039.59$ NA $VM(2,4,10)$ $4041.00$ NA $VM(,,)$ $512.91$ NA $VM(,,)$ $512.91$ NA $VM(8,32,10)$ $513.00$ NA $VM(,,)$ $512.91$	NA		4039.59
NA $VM(,)$ $4039.59$ NA $VM(2,4,10)$ $4041.00$ NA $VM(,)$ $512.91$ NA $VM(,)$ $512.91$ NA $VM(8,32,10)$ $513.00$ NA $VM(,)$ $512.91$			
NA $VM(2,4,10)$ $4041.00$ NA $VM(,,)$ $512.91$ NA $VM(,,)$ $512.91$ NA $VM(8,32,10)$ $513.00$ NA $VM(,,)$ $512.91$			
NA       VM(")       512.91         NA       VM(")       512.91         NA       VM(8,32,10)       513.00         NA       VM(")       512.91		( )	
NA       VM(")       512.91         NA       VM(8,32,10)       513.00         NA       VM(")       512.91	NA	VM(2,4,10)	4041.00
NA VM(8,32,10) 513.00 NA VM(,,) 512.91			
NA VM(,,) 512.91			
(")		· ·	
NA $VM(8,32,10)$ 512.00			
	NA	VM(8,32,10)	512.00
VM(,,) 102.90	NA	VM(,,)	102.90
NA $VM(8,32,10)$ 129.00	NA	VM(8,32,10)	129.00
VM(,,) 512.91	NA	VM(,,)	512.91
NA $VM(8,32,10)$ 513.00	NA	VM(8,32,10)	513.00
NA VM(") 512.91	NA	VM(,,)	512.91
NA $VM(8,32,10)$ 513.00	NA	VM(8,32,10)	513.00
VM(,) 512.91			512.91
NA $VM(56,115,10)$ 512.00	NA		512.00
NA VM(,,) 512.91	NA		512.91
NA $VM(8,32,10)$ 513.00	NA	* *	513.00

Table 12: Project Detailed Usage (continued)

item_name	item_definition	Usage_hours
NA NA NA NA NA	VM(") VM(8,16,10) VM(") VM(8,16,10) VM(")	512.91 510.00 512.91 510.00 512.91
NA NA NA NA NA	VM(8,16,10) VM(,,) VM(8,32,10) VM(,,) VM(8,16,160)	512.00 512.91 510.00 4039.59 4041.00
NA NA NA NA NA	VM(,,) VM(56,115,10) VM(,,) VM(56,115,10) VM(,,)	512.91 513.00 512.91 512.00 4039.59
NA 128.31.22.212 -> 128.31.22.61 -> 10.1.0.7 128.31.23.109 -> 10.1.0.12	VM(2,4,10) floating_ip floating_ip floating_ip	4041.00 0.00 0.00 0.00
$10.1.0.12$ $128.31.22.12 \rightarrow 10.1.0.14$ $128.31.22.125 \rightarrow 10.1.0.11$	floating_ip floating_ip	$0.00 \\ 0.00$
10.1.0.11 128.31.22.69 -> 128.31.22.68 -> 128.31.22.75 -> 128.31.22.70 -> 10.1.0.16	floating_ip floating_ip floating_ip floating_ip	0.00 0.00 0.00 0.00
128.31.22.208 -> NA NA NA NA	floating_ip VM(8,16,10) Vol VM(,,) VM(8,32,10)	0.00 512.00 409.52 409.52 383.00
NA NA NA NA NA	Vol Vol Vol Vol	0.00 91.00 0.00 0.00 0.00

Table 12: Project Detailed Usage (continued)

item_name	item_definition	Usage_hours
NA	Vol	0.00
NA	Vol	0.00
NA	Vol	85.51
NA	Vol	359.13
NA	Vol	359.13
NA	Vol	359.13
128.31.22.214 ->	$floating\_ip$	0.00

## Project: BUSeclab

Table 13: Project Usage Summary

item_definition	count	usage_hours
floating_ip	2	0.00
$\mathrm{VM}(,,)$	7	37943.12

Table 14: Project Detailed Usage

item_name	${\bf item\_definition}$	$Usage\_hours$
NA	VM(,,)	8902.40
NA	VM(,)	8902.40
NA	VM(,,)	8902.40
$128.31.25.195 \rightarrow$	floating_ip	0.00
192.168.142.11 128.31.26.130 -> 192.168.142.10	floating_ip	0.00
NA	VM(,,)	0.00
NA	VM(,)	5631.96
NA	VM(,)	0.00
NA	VM(,,)	5603.96

## Project: bps-bus

Table 15: Project Usage Summary

item_definition	count	usage_hours
floating_ip	2	0.0
$\mathrm{VM}(,,)$	3	11022.9

Table 16: Project Detailed Usage

item_name	item_definition	Usage_hours
NA	VM(,,)	6506.4
128.31.25.69 ->	floating_ip	0.0
NA	VM(,,)	0.0
$128.31.25.246 \rightarrow 10.0.0.9$	floating_ip	0.0
NA	$\mathrm{VM}(,,)$	4516.5

## Project: jfreud@bu.edu

Table 17: Project Usage Summary

item_definition	count	usage_hours
floating_ip	5	0.00
$\mathrm{VM}(,,)$	20	23083.42

Table 18: Project Detailed Usage

item_name	item_definition	Usage_hours
NA	VM(,,)	5033.40
NA	VM(,,)	512.90
$128.31.24.143 \rightarrow$	floating_ip	0.00
10.0.0.14 128.31.24.238 -> 10.0.0.8 NA	floating_ip VM(,,)	0.00 2837.06
NA	VM(,,)	2837.06
NA	VM(")	197.00
NA	VM(,)	770.00
128.31.24.143 ->	floating_ip	0.00
$10.0.0.10$ $128.31.24.152 \rightarrow$ $10.0.0.10$	floating_ip	0.00
NA	$\mathrm{VM}(,,)$	81.00
NA	VM(,,)	0.50
NA	VM(,,)	0.50
NA	VM(,,)	0.50
NA	VM(")	29.50
NA	VM(,,)	24.00
NA	VM(,)	24.00
$128.31.25.28 \rightarrow 10.0.0.12$	floating_ip	0.00
NA	VM(,,)	0.50
NA	VM(,,)	433.00
NA	VM(,,)	432.00
NA	VM(,,)	3295.00

Table 18: Project Detailed Usage (continued)

item_name	item_definition	Usage_hours
NA	VM(,,)	10.50
NA	VM(,,)	3282.50
NA	VM(,,)	3282.50

## ${\bf Project:\ BU\_CCC18\_tracing\_kubernetes}$

Table 19: Project Usage Summary

item_definition	count	usage_hours
floating_ip	2	0.0
$\mathrm{VM}(,,)$	4	35607.6

Table 20: Project Detailed Usage

item_name	item_definition	Usage_hours
NA	VM(,,)	8901.9
128.31.26.26 ->	floating_ip	0.0
192.168.0.9		
$128.31.25.255 \rightarrow$	$floating\_ip$	0.0

## Project: nathen@bu.edu

Table 21: Project Usage Summary

item_definition	count	usage_hours
floating_ip	3	0.0
$\mathrm{VM}(,,)$	1	512.9

Table 22: Project Detailed Usage

item_name	$item\_definition$	${f Usage\_hours}$
NA	VM(,,)	512.9
$128.31.26.52 \rightarrow 10.10.5.4$	floating_ip	0.0
128.31.25.228 ->	floating_ip	0.0
$128.31.25.247 \rightarrow$	floating_ip	0.0

#### ${\bf Project:\ BU\_CCC18\_Access\_Orchest\_Federated\_Clouds}$

Table 23: Project Usage Summary

item_definition	count	usage_hours
floating_ip	4	0.0
$\mathrm{VM}(,,)$	4	18829.6

Table 24: Project Detailed Usage

item_name	$item\_definition$	$Usage\_hours$
NA	VM(,,)	512.9
NA	VM(,)	8901.9
NA	VM(,,)	512.9
NA	VM(,,)	8901.9
$128.31.26.94 \rightarrow 10.0.0.9$	floating_ip	0.0
$128.31.26.109 \rightarrow 10.0.0.6$	floating_ip	0.0
128.31.26.141 ->	floating_ip	0.0
$\begin{array}{c} 10.0.0.12 \\ 128.31.26.90 -> 10.0.0.8 \end{array}$	floating_ip	0.0

## $\label{eq:project:BU_CCC18_CDN_and_WAF} \textbf{Project: BU\_CCC18\_CDN\_and\_WAF}$

Table 25: Project Usage Summary

item_definition	count	usage_hours
floating_ip	6	0.0
$\mathrm{VM}(,,)$	3	26705.7

Table 26: Project Detailed Usage

item_name	item_definition	Usage_hours
NA	VM(,,)	8901.9
NA	VM(,,)	8901.9
NA	VM(,,)	8901.9
$128.31.26.50 \rightarrow$	floating_ip	0.0
128.31.25.244 ->	floating_ip	0.0
$128.31.26.5 \rightarrow 10.0.0.11$	floating_ip	0.0
128.31.26.6 ->	floating_ip	0.0
$128.31.25.73 \rightarrow 10.0.0.12$	floating_ip	0.0
128.31.25.210 ->	floating_ip	0.0

## ${\bf Project:\ Buechler Researchh}$

Table 27: Project Usage Summary

item_definition	count	usage_hours
floating_ip	3	0.00
$\mathrm{VM}(,,)$	13	31495.24

Table 28: Project Detailed Usage

item_name	item_definition	Usage_hours
NA	VM(,,)	512.90
NA	VM(,)	512.90
NA	VM(,,)	512.90
NA	VM(,,)	512.90
NA	VM(,,)	512.90
128.31.26.76 -> 192.168.0.11	$floating\_ip$	0.00
NA NA	VM(,,)	6902.56
NA	VM(,)	6902.56
NA	VM(,)	6902.56
NA	VM(,,)	6902.56
128.31.25.34 ->	floating_ip	0.00
192.168.0.38 128.31.24.192 ->	floating ip	0.00
NA	VM(,,)	0.00
NA	VM(",)	0.00
NA	VM(",")	13.50
NA	$\mathrm{VM}(,,)$	1307.00

## ${\bf Project:\ BU\_CCC18\_Auditing\_HW}$

Table 29: Project Usage Summary

item_definition	count	usage_hours
floating_ip	1	0

Table 30: Project Detailed Usage

item_name	item_definition	Usage_hours
128.31.26.12 ->	floating_ip	0

## Project: distributed-ledger-experiments

Table 31: Project Usage Summary

item_definition	count	usage_hours
floating_ip	1	0

Table 32: Project Detailed Usage

$item\_name$	$item\_definition$	${\bf Usage\_hours}$
128.31.25.183 ->	floating_ip	0

## ${\bf Project:\ bu528-secure-cloud-enclaves}$

Table 33: Project Usage Summary

item_definition	count	usage_hours
floating_ip	2	0.00
VM(,,)	99	18275.96

Table 34: Project Detailed Usage

item_name	item_definition	Usage_hours
NA	VM(,,)	1001.96
$128.31.25.235 \rightarrow$	$floating\_ip$	0.00
198.168.100.9 NA	$\mathrm{VM}(,,)$	95.50
NA	VM(,,)	45.50
NA	VM(,,)	45.50
NA	VM(,,)	45.50
128.31.25.228 ->	floating_ip	0.00
172.16.10.7 NA	VM(,,)	0.00
NA	VM(,,)	1.00
NA	VM(,,)	24.00
NA	VM(,,)	19.50
NA	VM(,,)	0.00
NA	$\mathrm{VM}(,,)$	19.50
NA	$\mathrm{VM}(,,)$	0.50
NA	$\mathrm{VM}(,,)$	23.50
NA	VM(,,)	2.50
NA	VM(,,)	15.00
NA	$\mathrm{VM}(,,)$	4.00
NA	$\mathrm{VM}(,,)$	0.00
NA	VM(,,)	0.50
NA	VM(,,)	0.50
NA	VM(,)	827.50
NA	VM(,,)	827.50

Table 34: Project Detailed Usage (continued)

item_name	$item\_definition$	Usage_hours
NA	VM(,,)	818.50
NA	VM(,,)	0.00
NA	$\mathrm{VM}(,,)$	0.00
NA	VM(,,)	11.50
NA	$\mathrm{VM}(,,)$	0.00
NA	$\mathrm{VM}(,,)$	0.00
NA	$\mathrm{VM}(,,)$	0.00
NA	VM(,,)	95.50
NA	$\mathrm{VM}(,,)$	95.50
NA	VM(,,)	0.00
NA	VM(,)	145.50
NA	VM(,,)	0.00
NA	$\mathrm{VM}(,,)$	308.00
NA	$\mathrm{VM}(,,)$	0.00
NA	$\mathrm{VM}(,,)$	0.00
NA	VM(,)	58.00
NA	VM(,,)	134.00
NA	$\mathrm{VM}(,,)$	0.00
NA	VM(,,)	3547.50
NA	$\mathrm{VM}(,,)$	8.00
NA	VM(,)	7.00
NA	$\mathrm{VM}(,,)$	13.50
NA	$\mathrm{VM}(,,)$	12.50
NA	$\mathrm{VM}(,,)$	9.00
NA	$\mathrm{VM}(,,)$	12.50
NA	VM(,)	2.50
NA	$\mathrm{VM}(,,)$	69.50
NA	VM(,,)	69.50
NA	$\mathrm{VM}(,,)$	2.50
NA	VM(,,)	0.00
NA	$\mathrm{VM}(,,)$	0.00

Table 34: Project Detailed Usage (continued)

item_name	$item\_definition$	Usage_hours
NA NA	VM(,,) VM(,,)	745.00 745.00
NA NA NA	$egin{array}{l} \mathrm{VM}(,,) \ \mathrm{VM}(,,) \ \mathrm{VM}(,,) \end{array}$	$   \begin{array}{r}     108.50 \\     0.50 \\     1.50   \end{array} $
NA NA NA NA	VM(,,) VM(,,) VM(,,) VM(,,)	0.00 $0.00$ $21.00$ $21.00$ $1.50$
NA NA NA NA NA	VM(") VM(") VM(") VM(") VM(") VM(")	18.00 3427.50 3.50 0.00 1.50
NA NA NA NA NA	VM(") VM(") VM(") VM(") VM(")	19.50 1.50 1.50 0.50 0.50
NA NA NA NA	VM(,,) VM(,,) VM(,,) VM(,,) VM(,,)	3379.00 0.00 0.00 1.50 1.50
NA NA NA NA	VM(,,) VM(,,) VM(,,) VM(,,) VM(,,)	16.50 16.50 7.00 7.00 23.50
NA NA NA NA NA	VM(,,) VM(,,) VM(,,) VM(,,) VM(,,)	23.50 634.00 20.50 20.50 21.00

Table 34: Project Detailed Usage (continued)

item_name	item_definition	Usage_hours
NA	VM(,,)	6.00
NA	VM(,)	6.00
NA	VM(,,)	5.00
NA	VM(,,)	9.00
NA	$\mathrm{VM}(,,)$	519.00