

malware_propagation_visualisation

August 12, 2020

1 Malware Propagation Visualisation

A notebook for working with output data from Cuckoo and the Virtual Win7 Network for the Malware Propagation Visualisation Project (MalPropVis)

1.1 Generating Combined Screenshot View

This will allow us to merge screenshots into a single image.

```
[5]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import os

directory = '12-08-2020/screenshots/'

initial_val = ''
time_set = []
machine_set = []

for i in sorted(os.listdir(directory)):
    full_path = directory + i
    split_full_path = full_path.split('_')
    print (split_full_path)
    initial_val = split_full_path[0]
    time_set.append(split_full_path[1])
    machine_set.append('.'.join(split_full_path[2:]))
    #img = plt.imread(directory + i)
    #plt.imshow(img)
    #plt.show()

time_set = sorted(list(set(time_set)))
machine_set = sorted(list(set(machine_set)))
print (initial_val)
print (time_set)
print (machine_set)
```

```

for i in time_set:
    d = initial_val + '_' + i
    print (d)

    img1 = plt.imread(d + '_' + machine_set[0])
    img2 = plt.imread(d + '_' + machine_set[1])
    img3 = plt.imread(d + '_' + machine_set[2])
    img4 = plt.imread(d + '_' + machine_set[3])

    output = np.vstack( [np.hstack([img1, img2]), np.hstack([img3, img4])] )

    plt.imshow(output)
    plt.show()
    fp = './12-08-2020/combined_image/' + i + '.png'
    print ("save to: " + fp)
    plt.imsave(fp, output)

```

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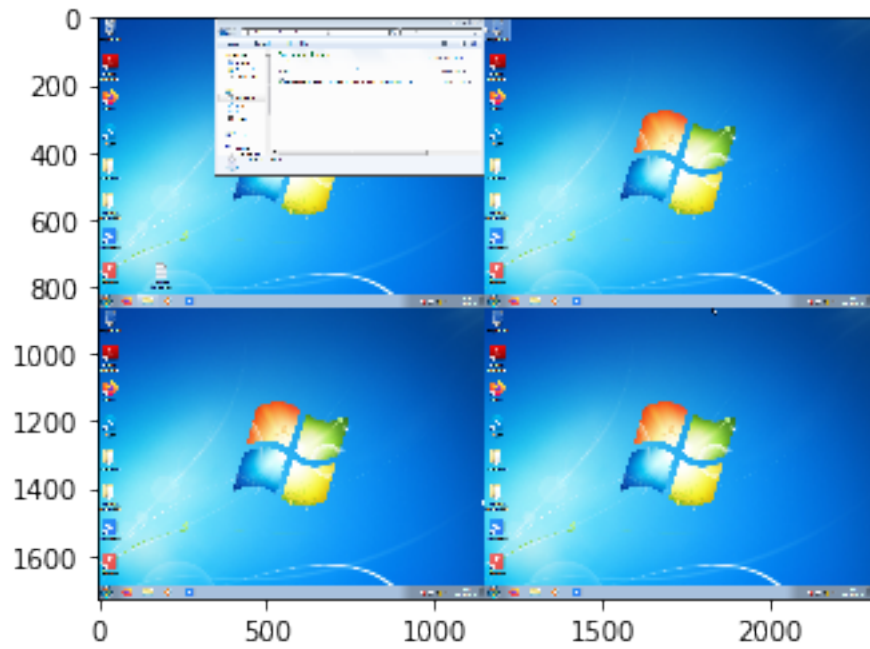
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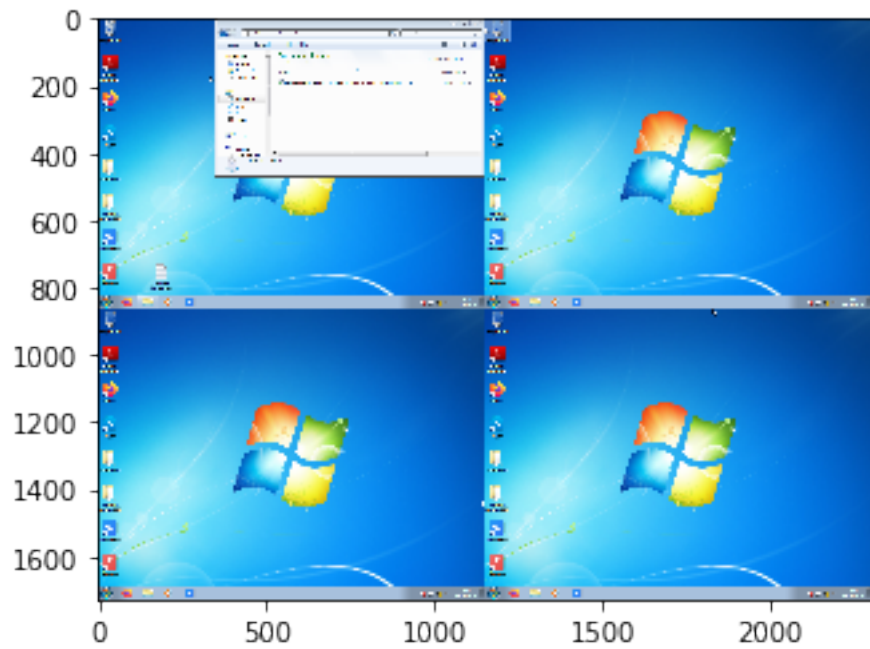
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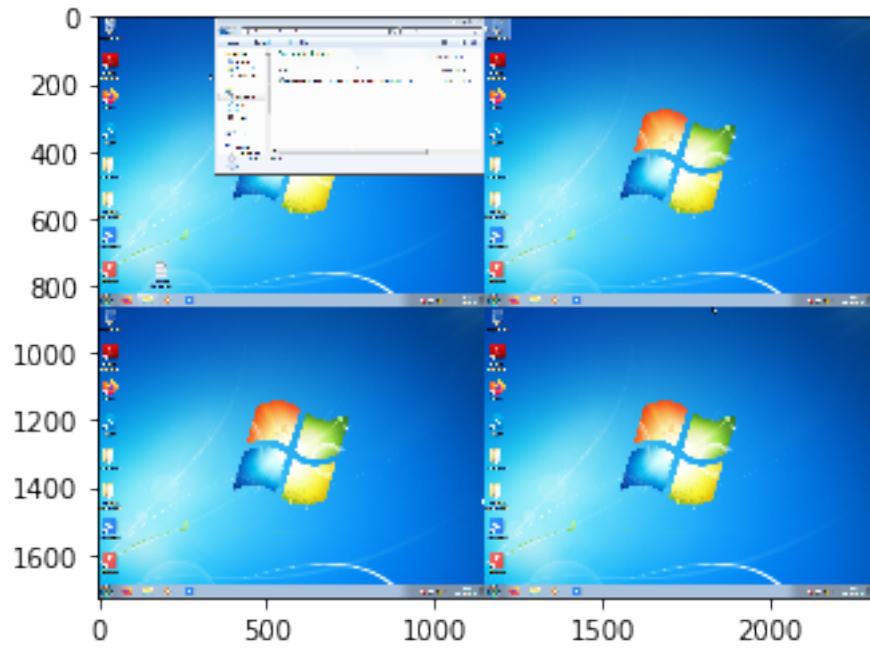


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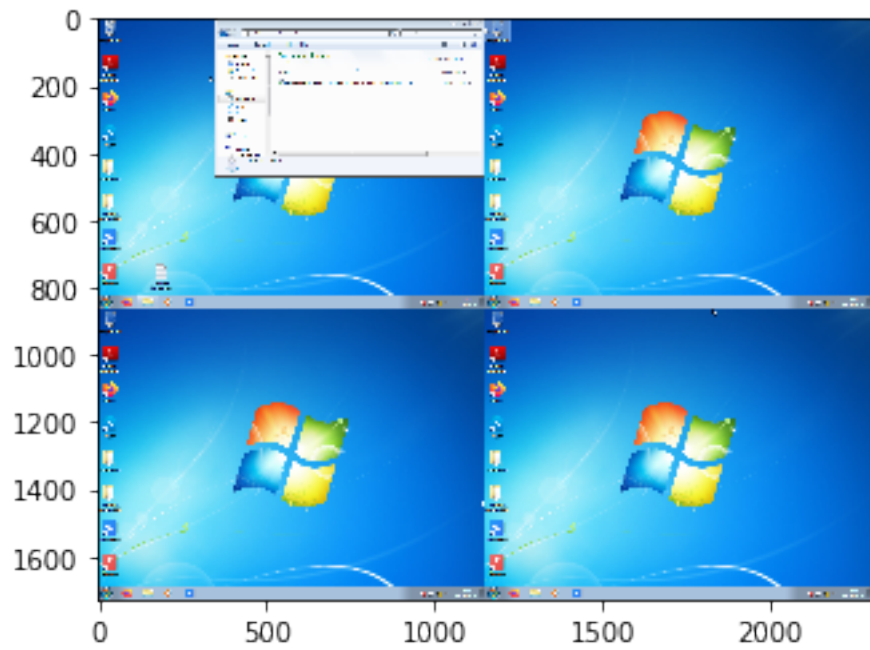
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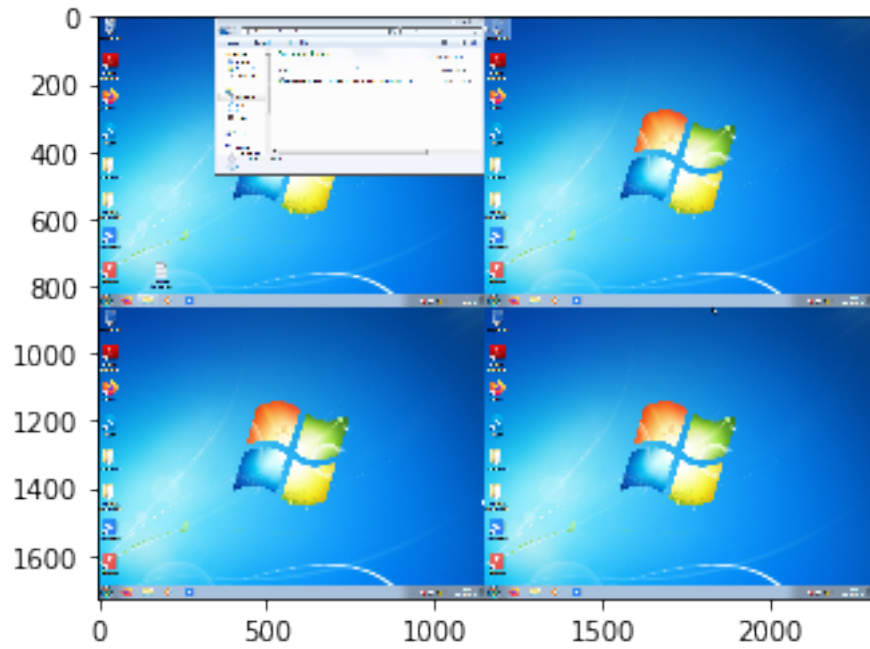


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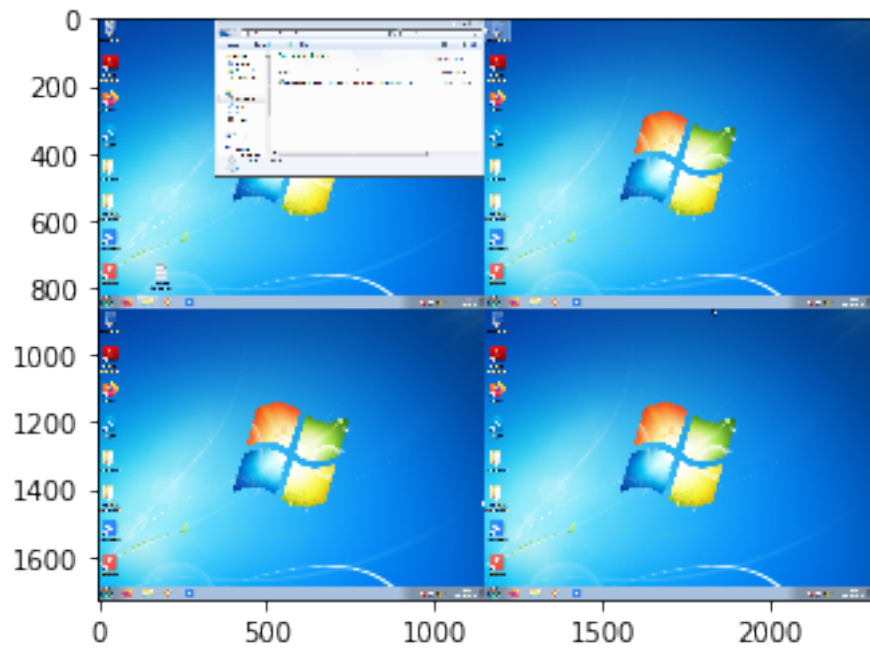
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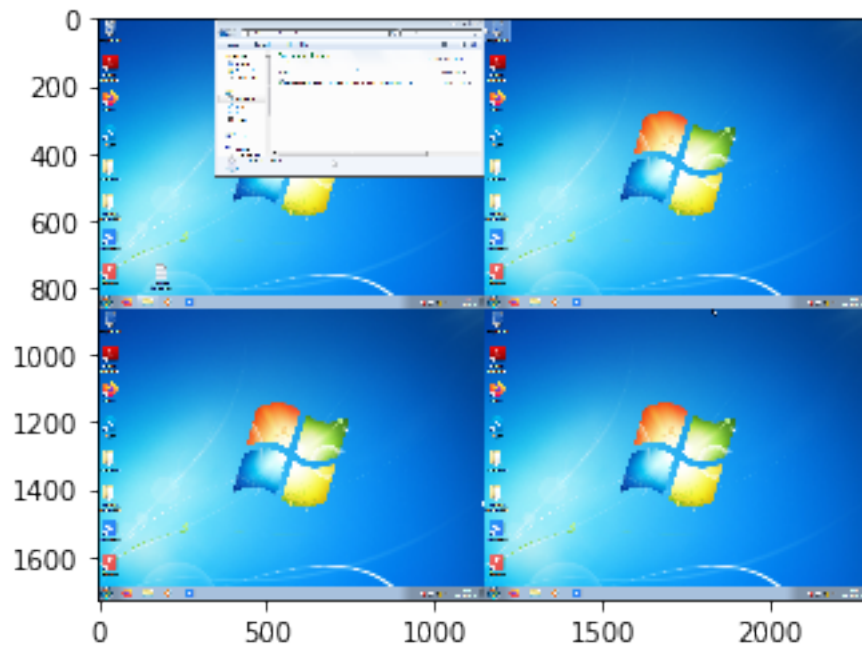
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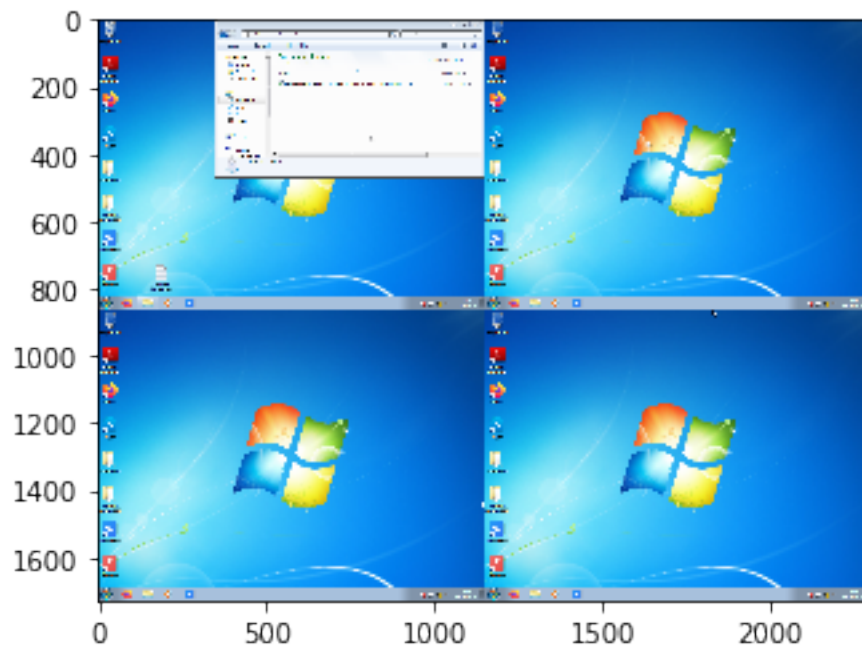
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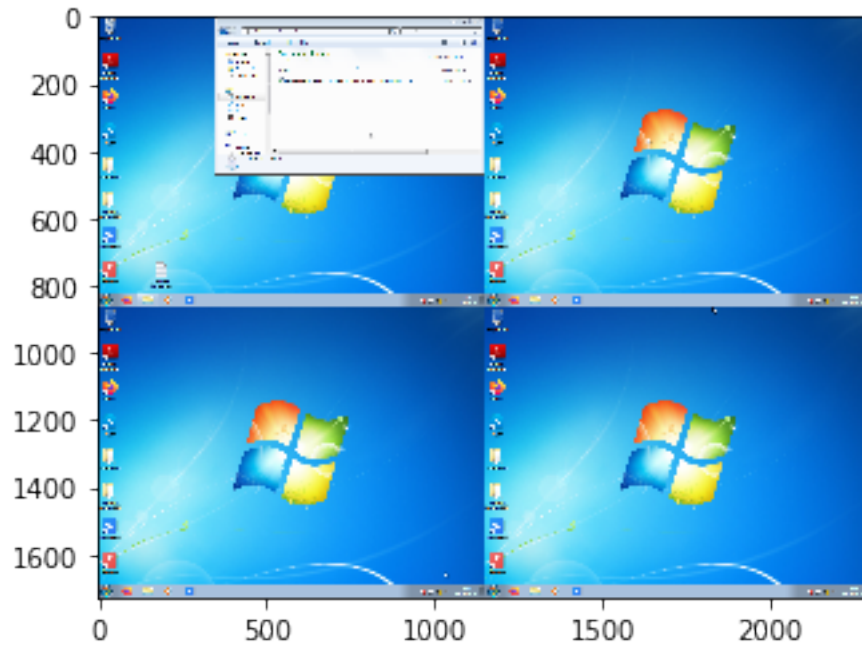
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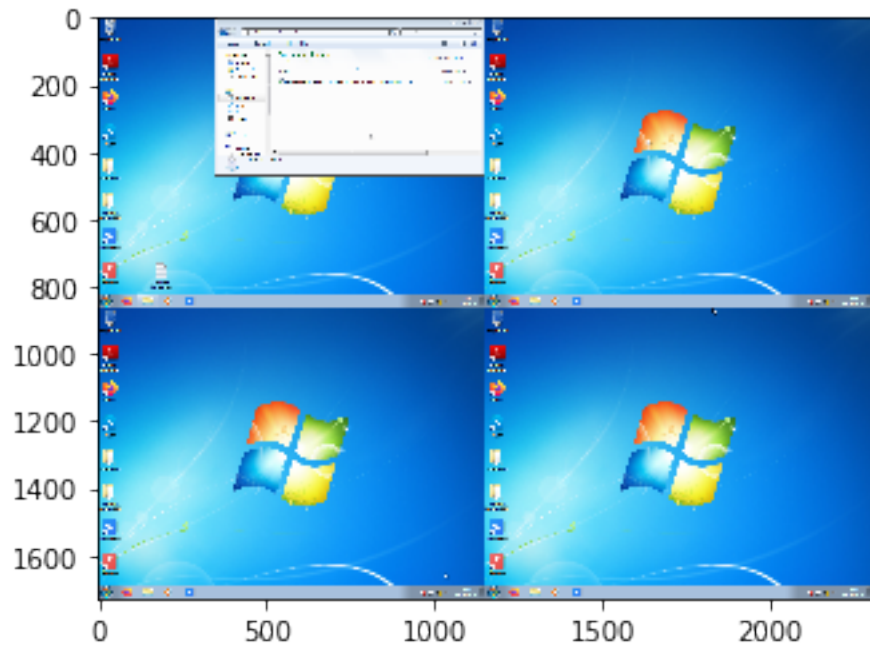
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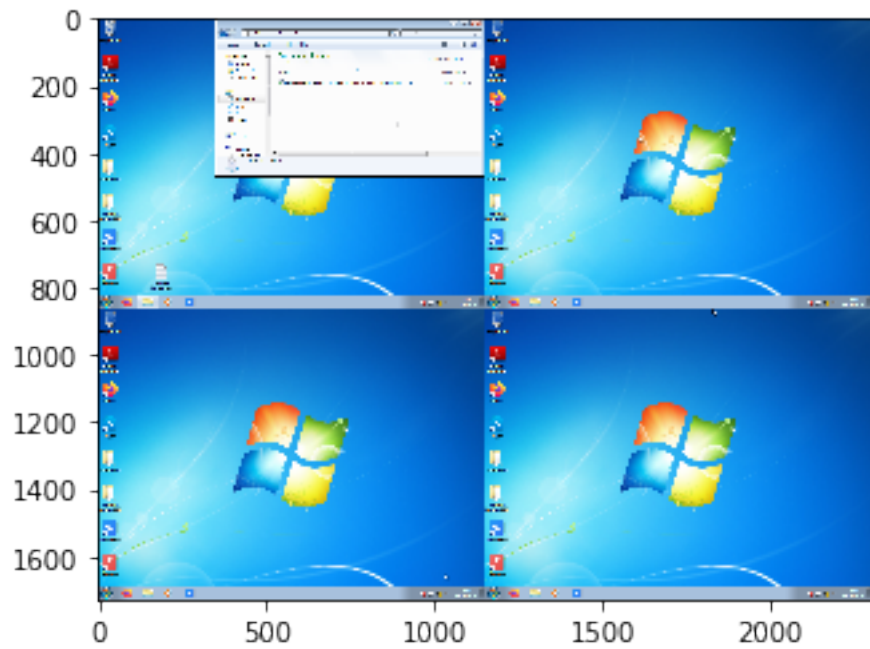
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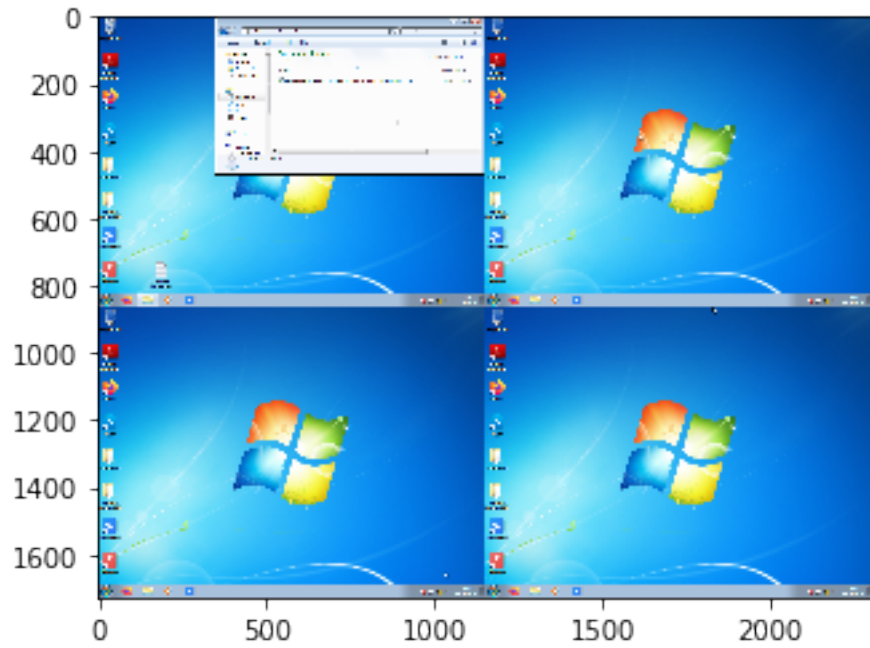


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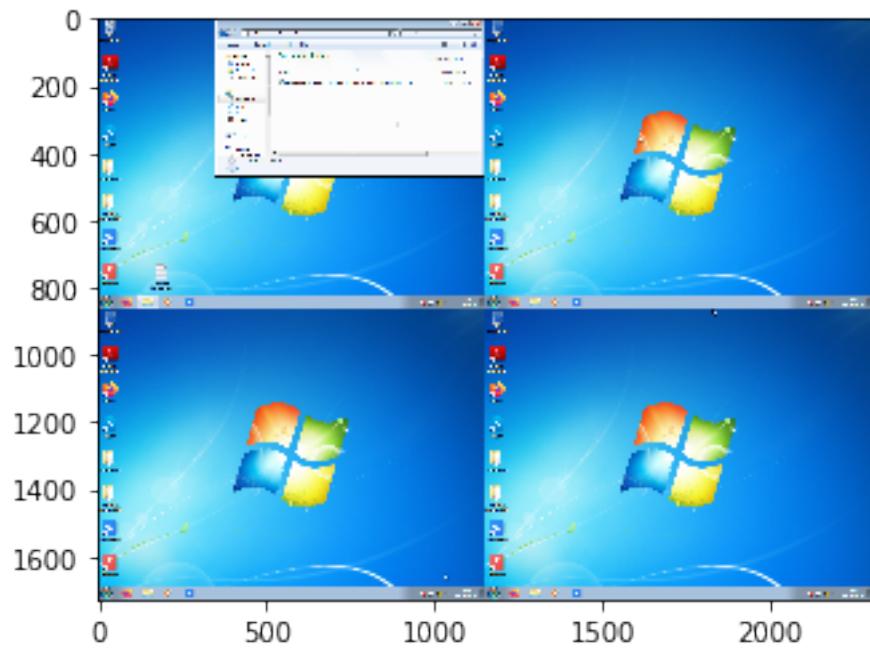
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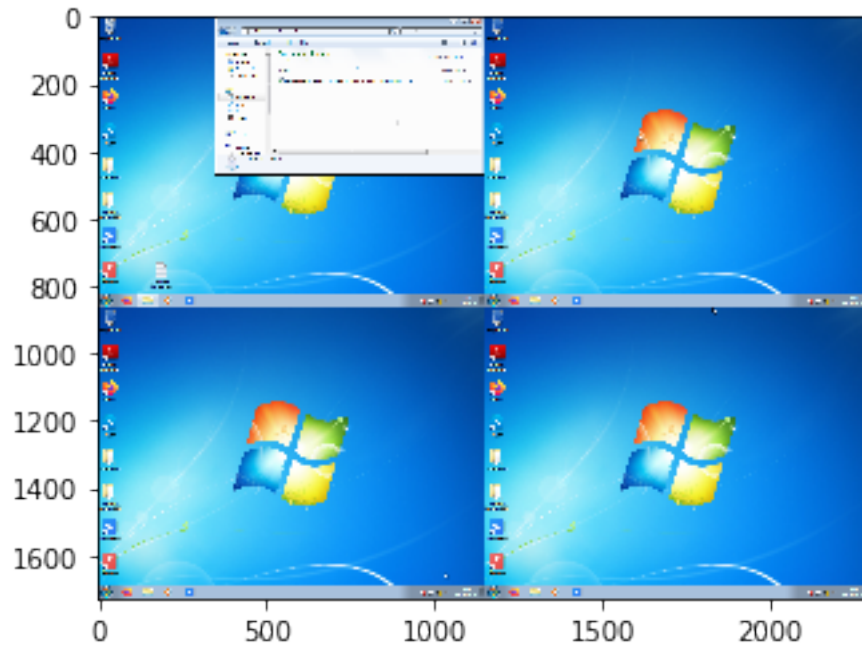


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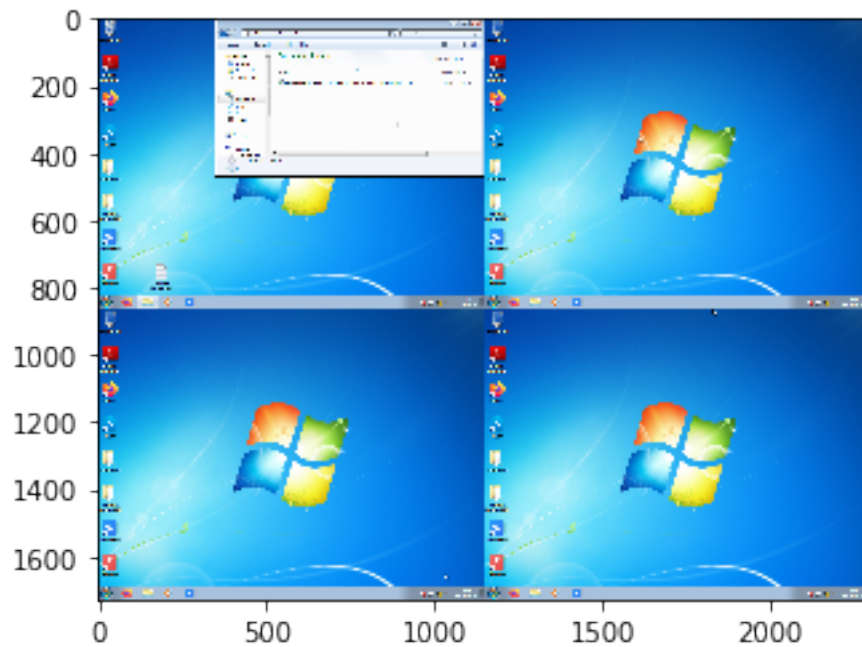
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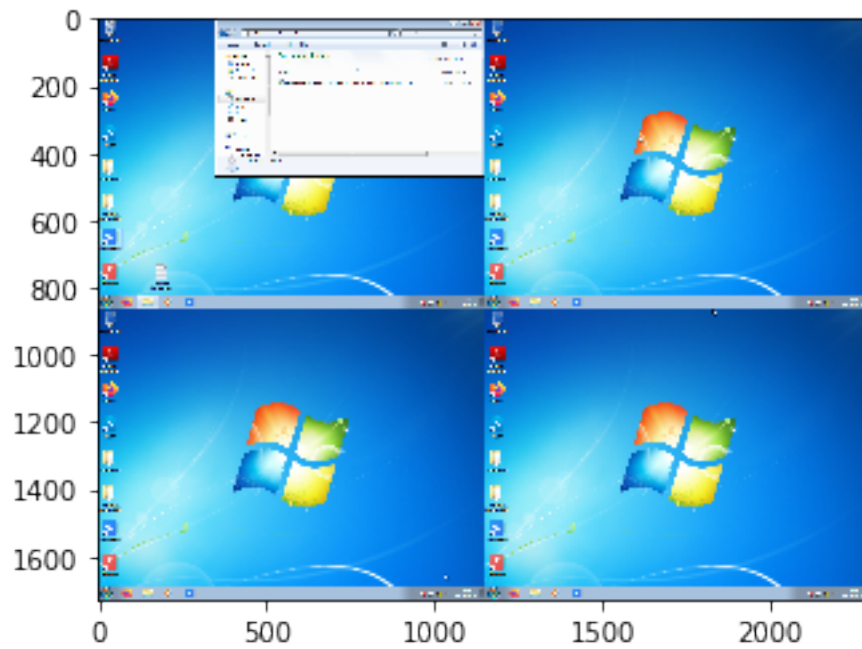
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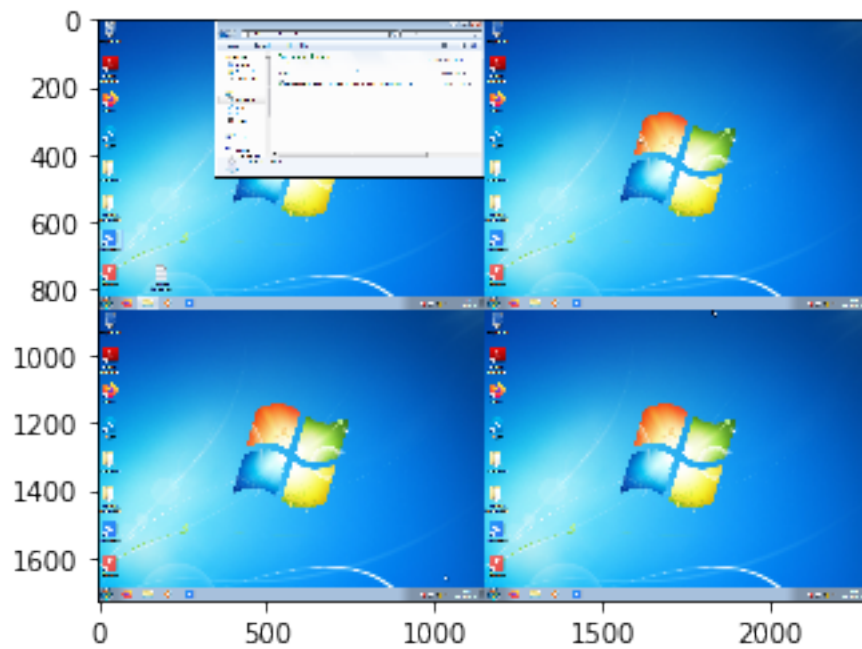
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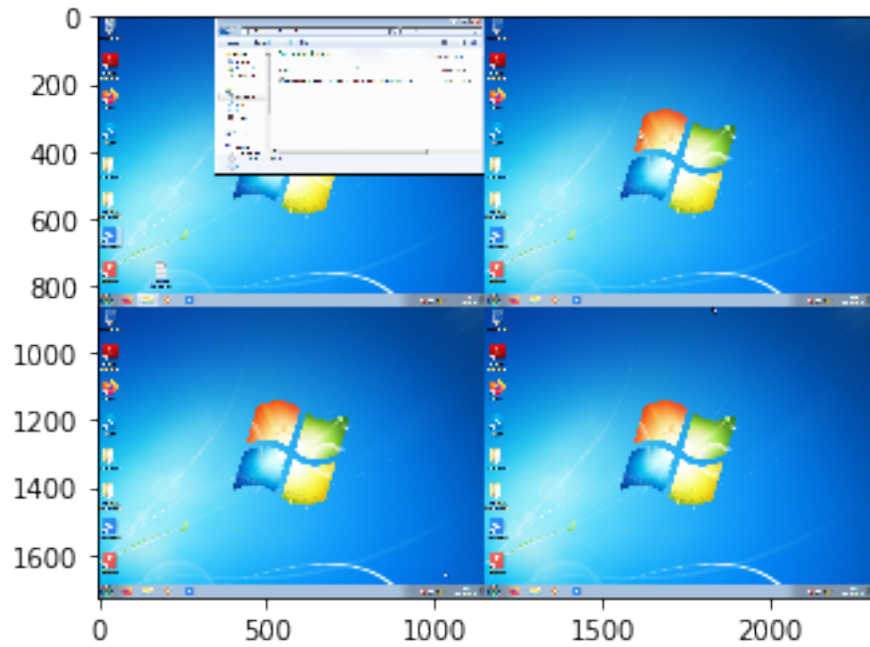
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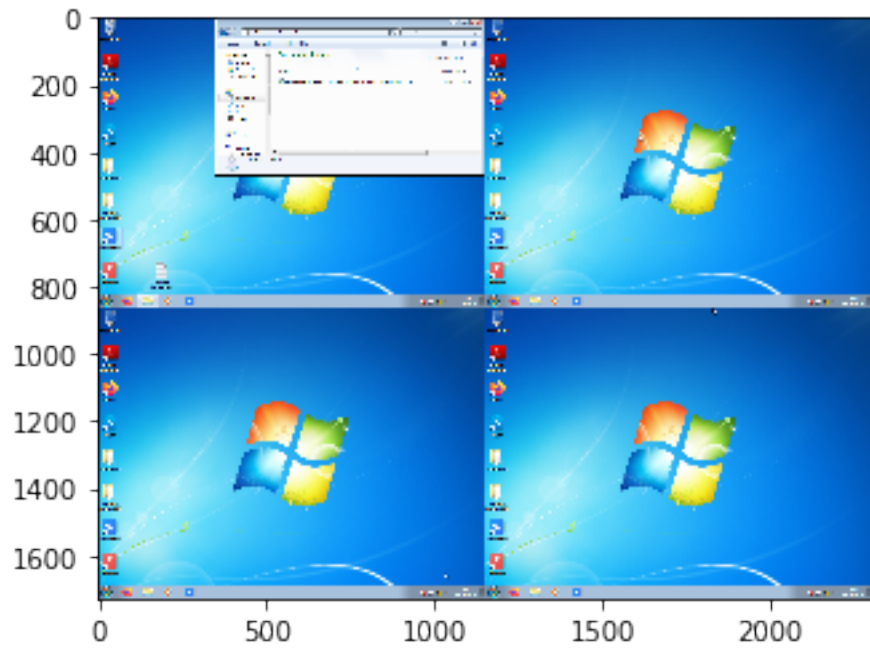
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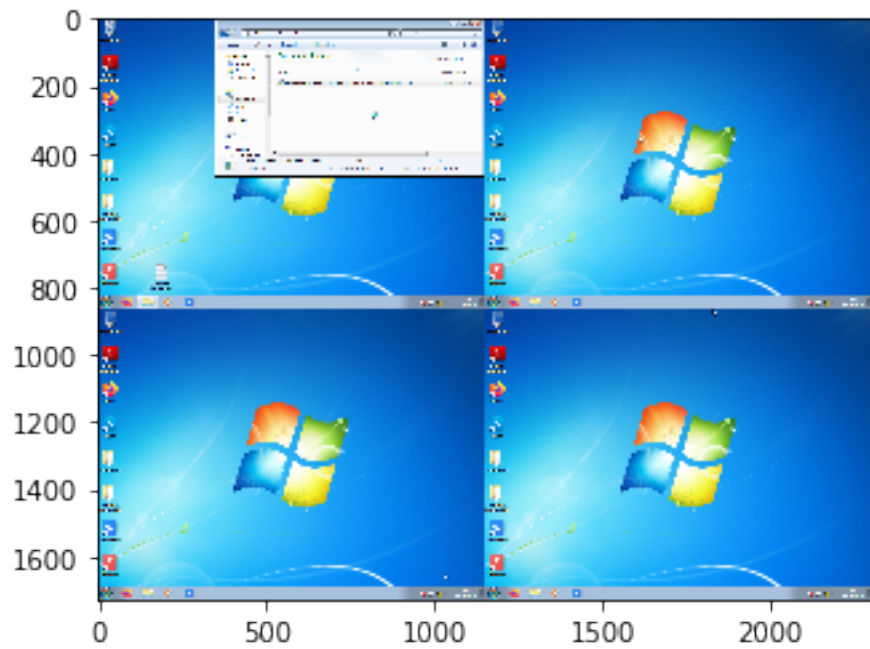
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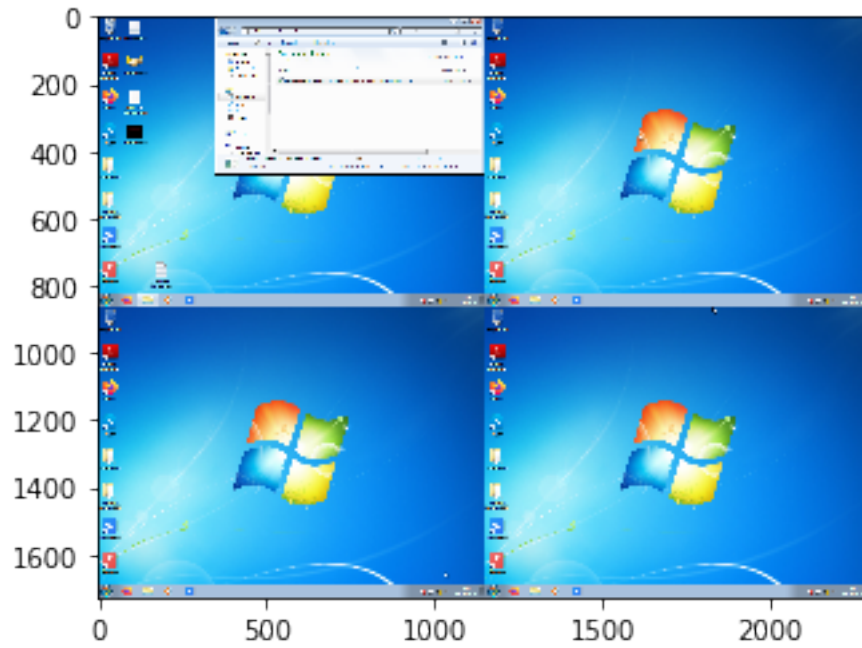


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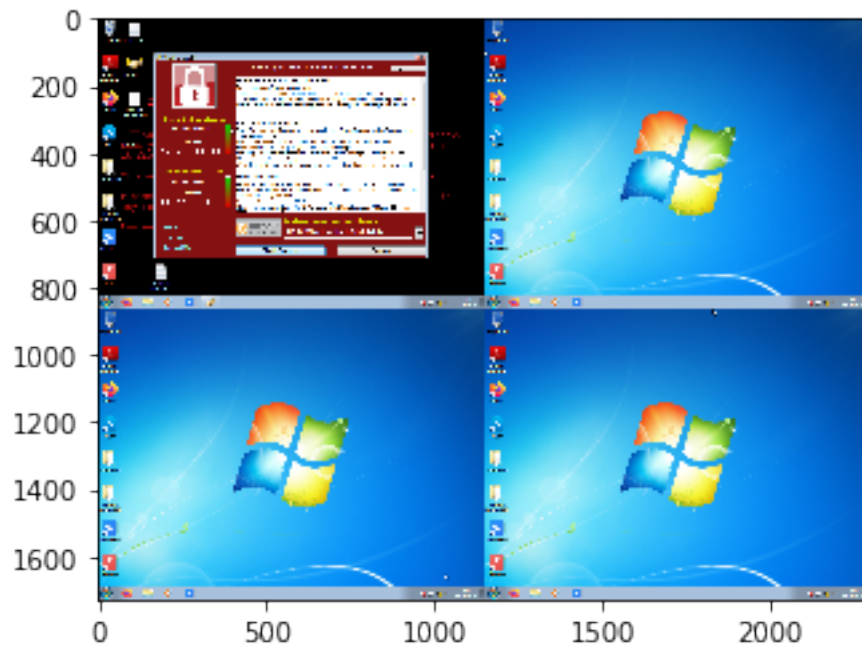
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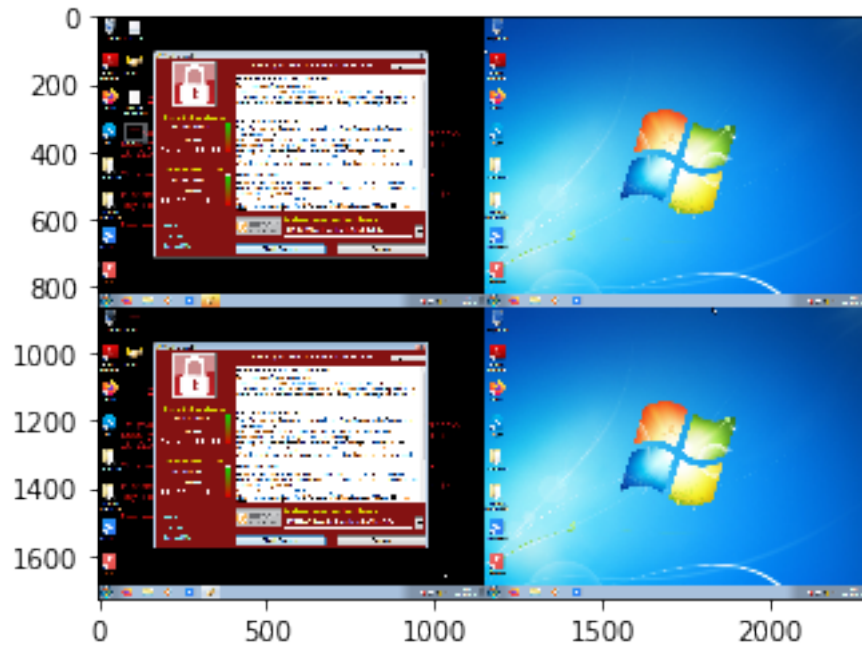


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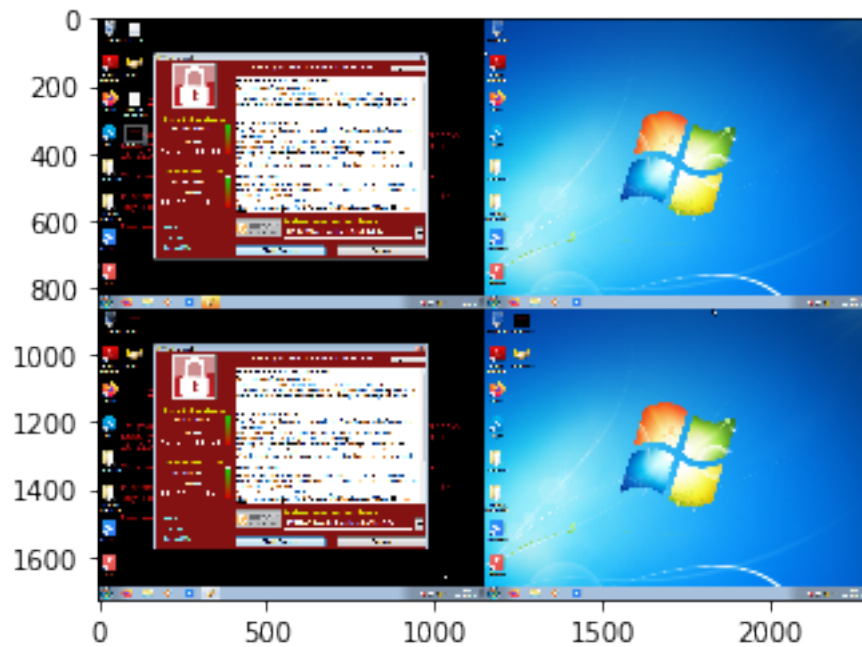
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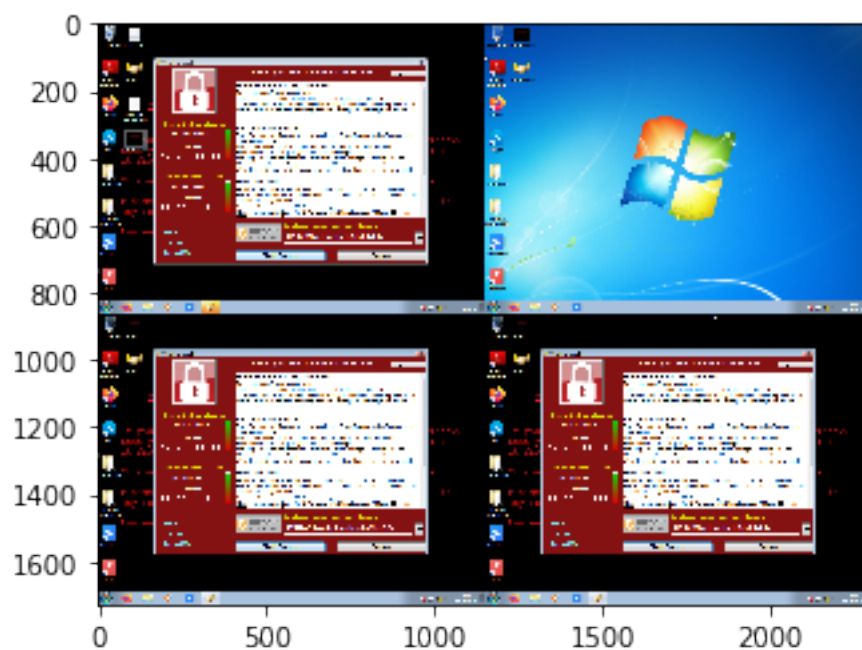
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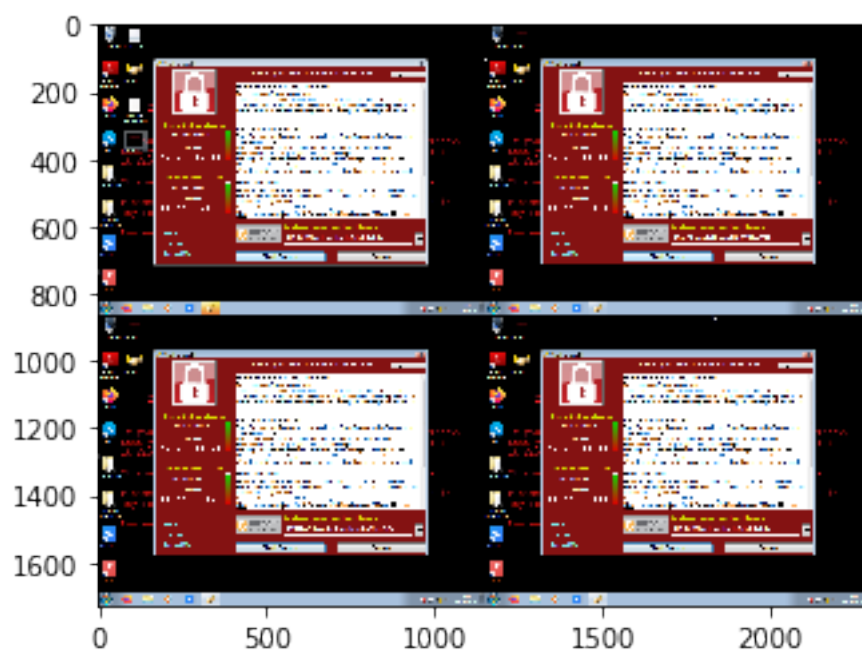
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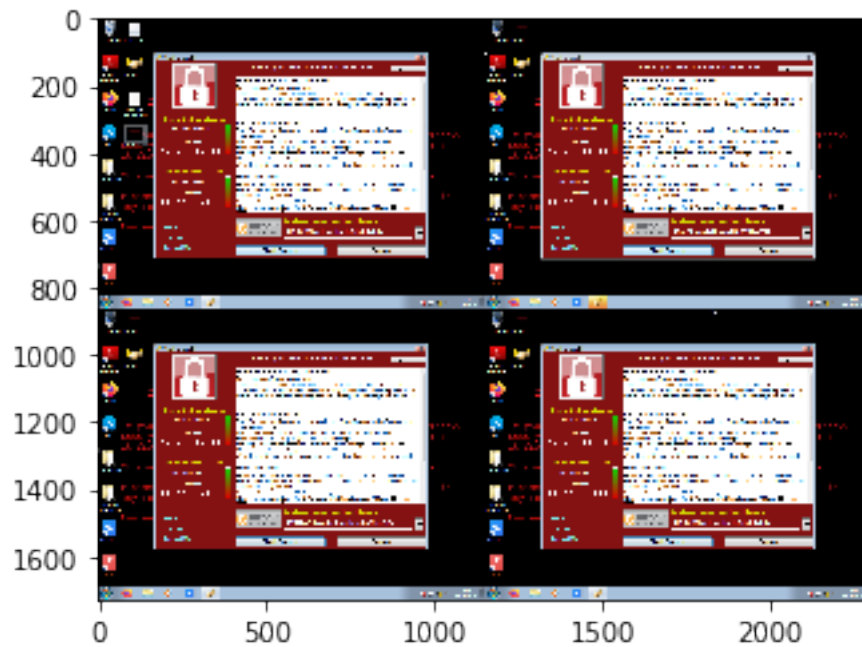
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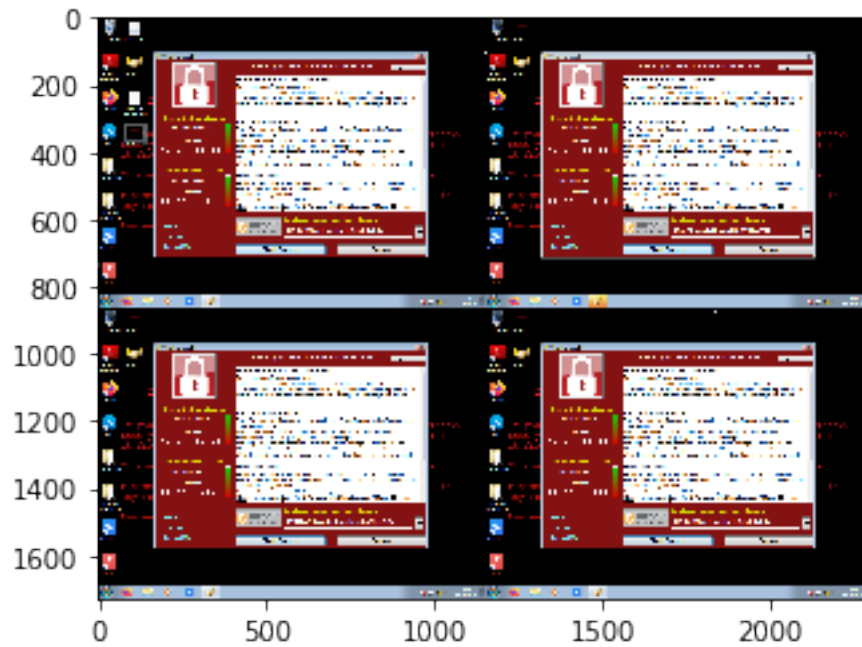
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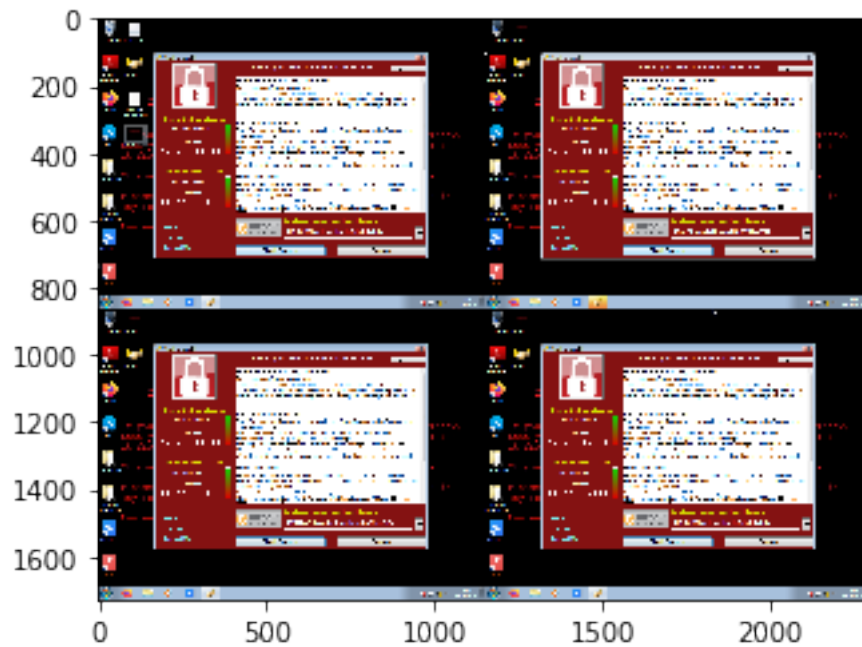
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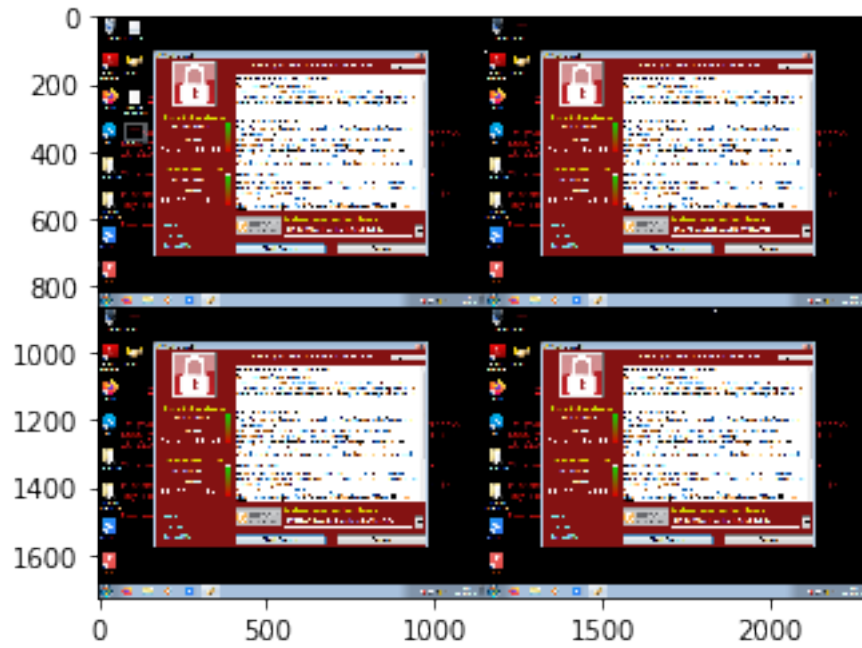


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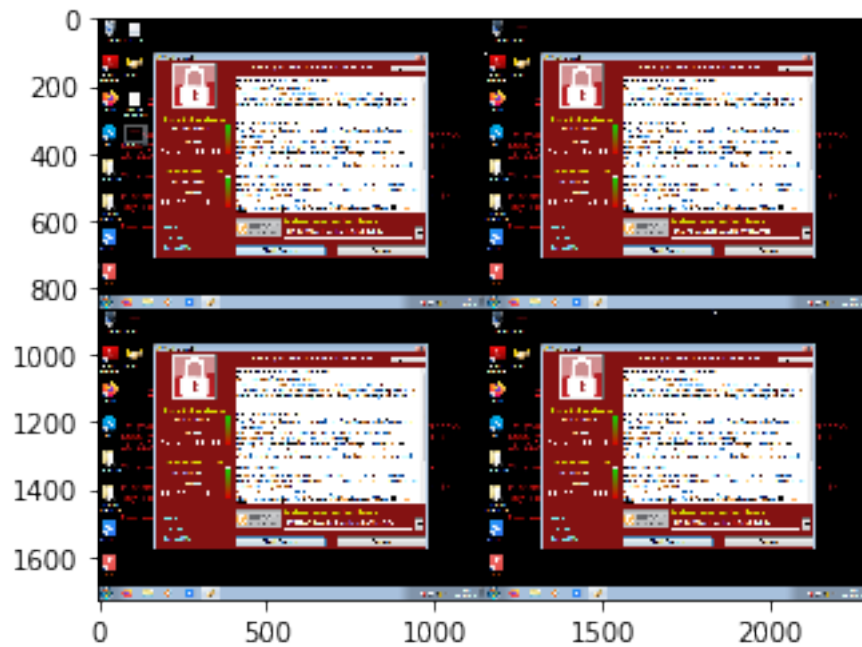
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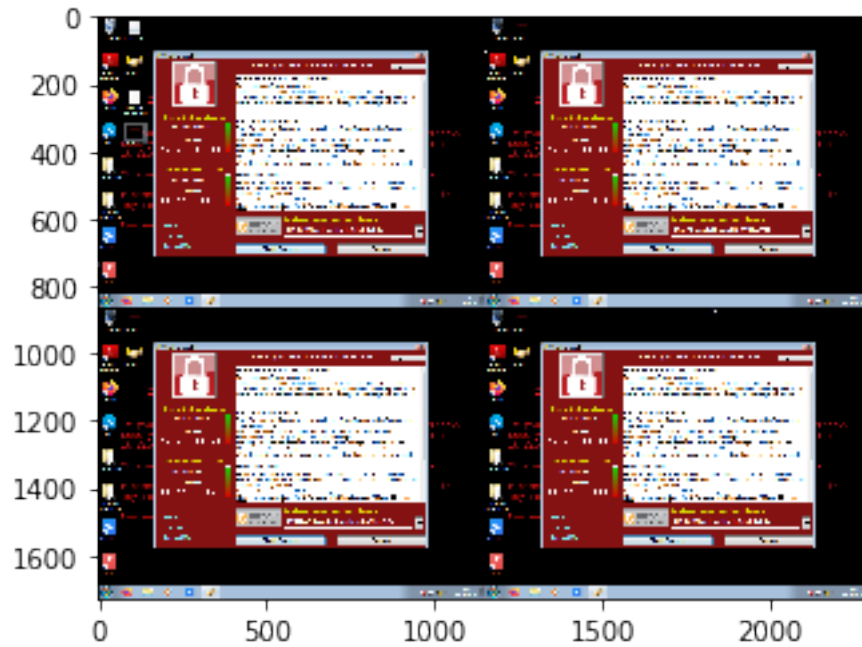


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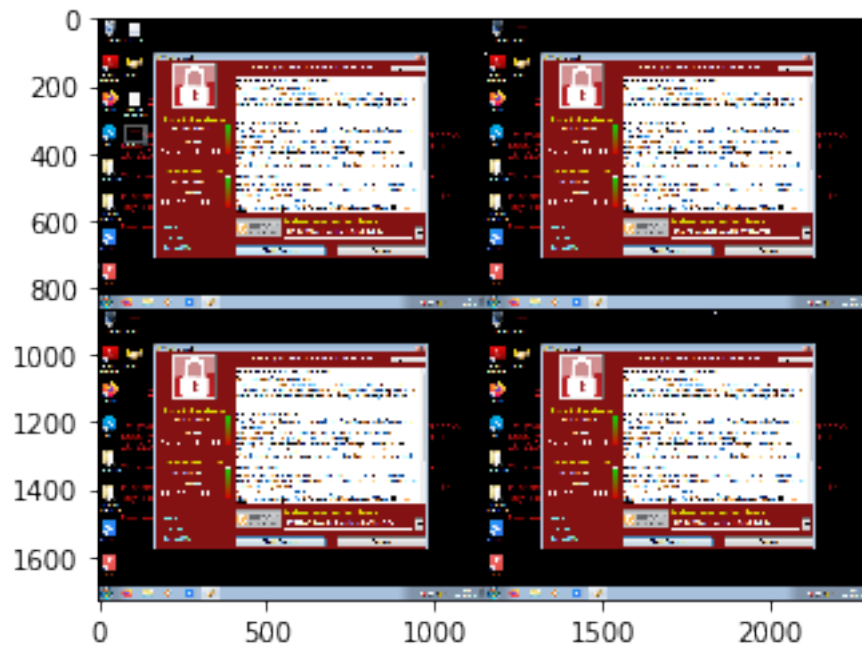
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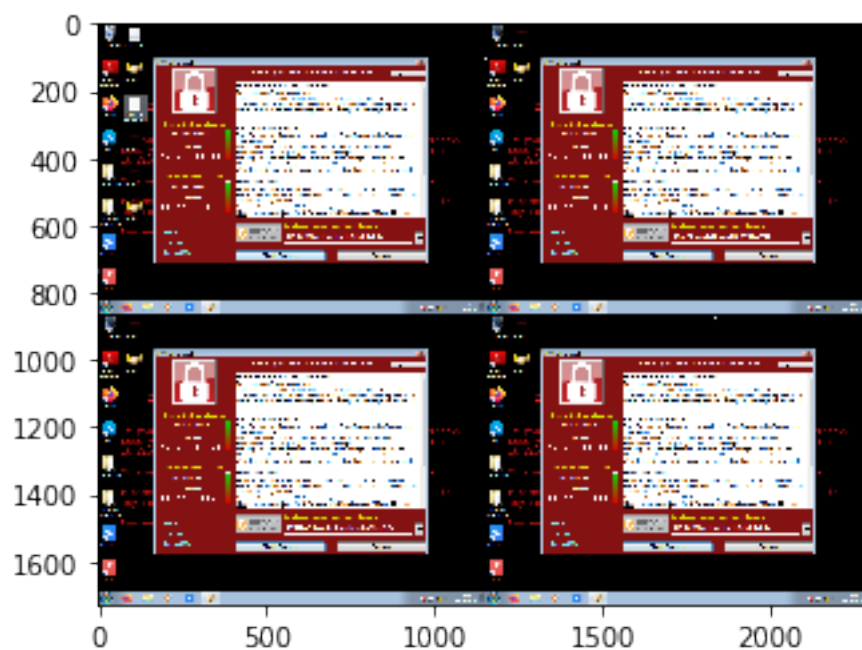
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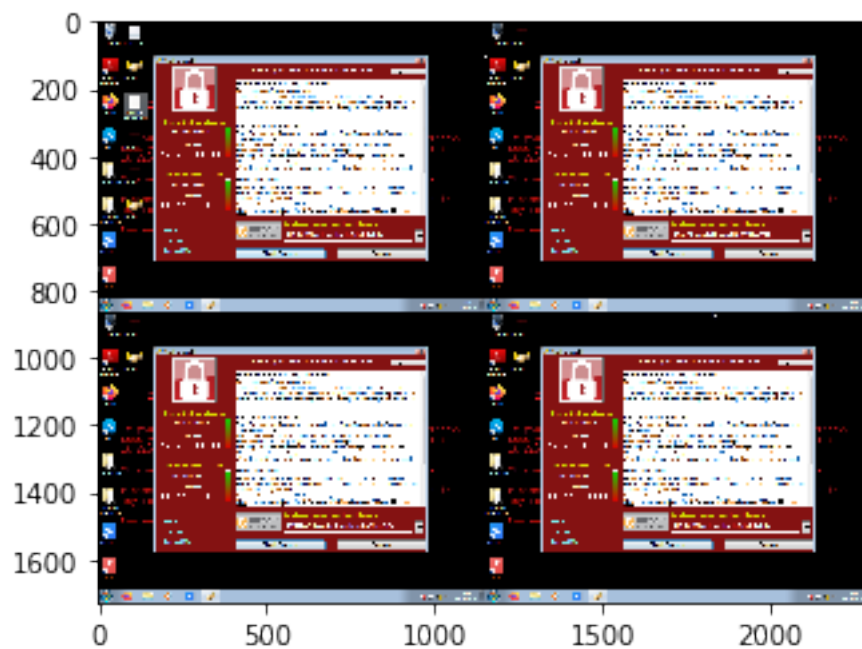
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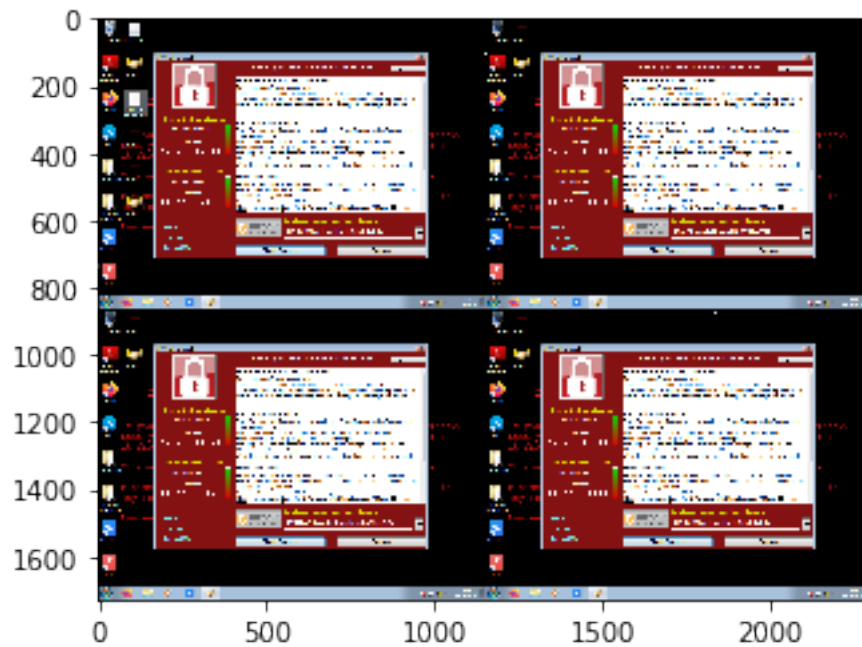
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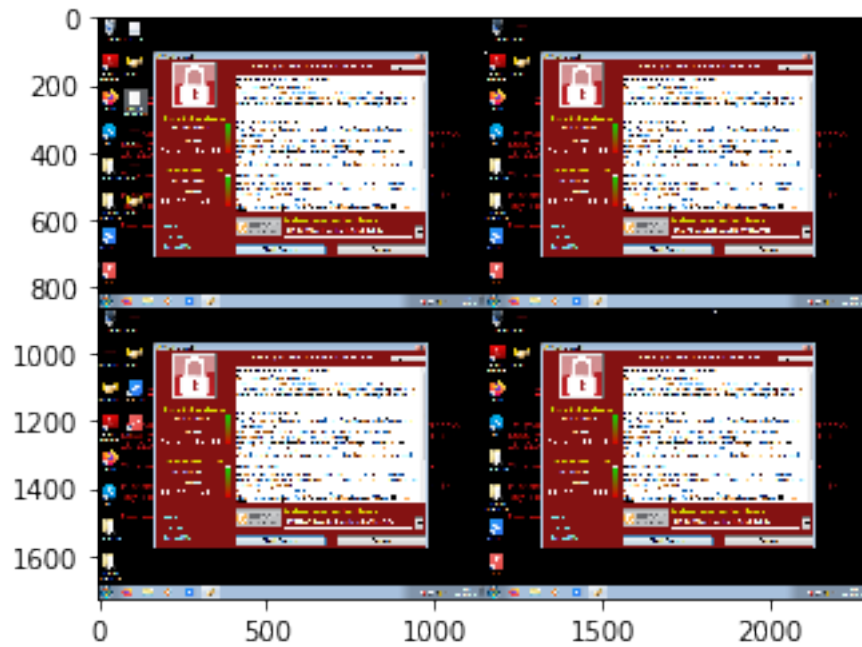
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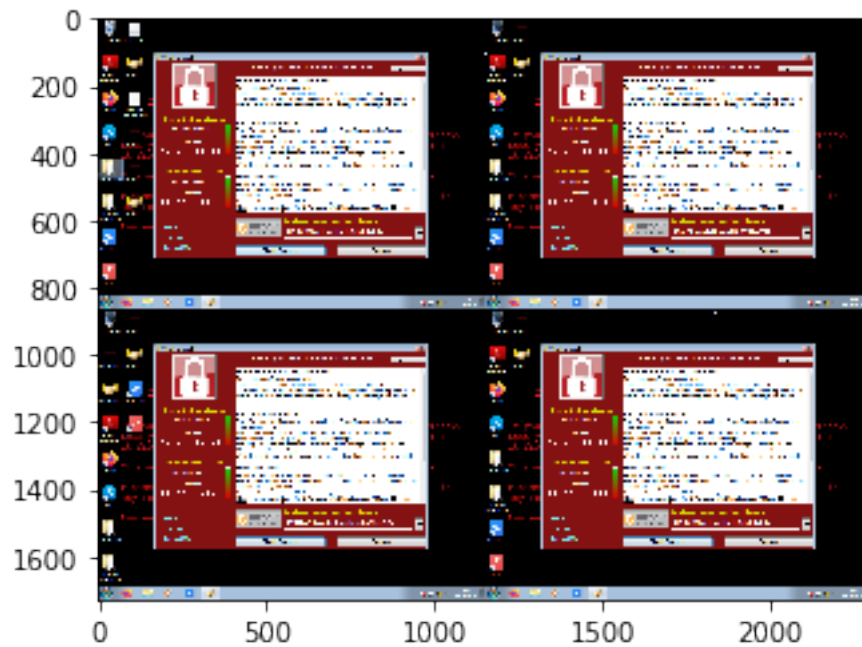
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12-08-2020/screenshots/12-08-2020-11-58-14_12-08-2020-12-16-24



save to: ./12-08-2020/combined_image/12-08-2020-12-16-24.png
12-08-2020/screenshots/12-08-2020-11-58-14_12-08-2020-12-16-54

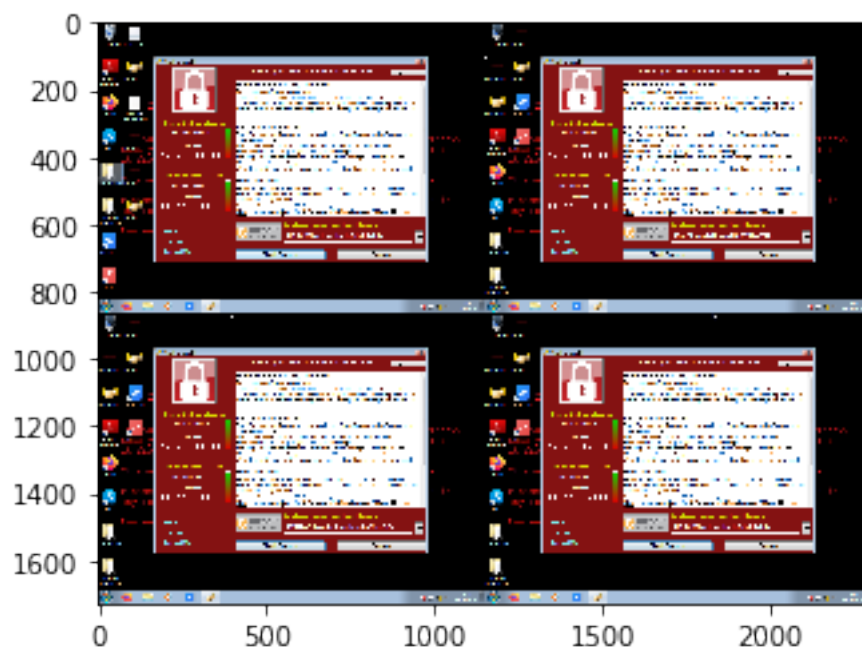


save to: ./12-08-2020/combined_image/12-08-2020-12-16-54.png
 12-08-2020/screenshots/12-08-2020-11-58-14_12-08-2020-12-17-24



save to: ./12-08-2020/combined_image/12-08-2020-12-17-24.png

12-08-2020/screenshots/12-08-2020-11-58-14_12-08-2020-12-17-54



save to: ./12-08-2020/combined_image/12-08-2020-12-17-54.png

2 Explore the CSV output

This section will start to look at what information has been captured in the CSV output file

```
[28]: pd.set_option('display.max_columns', None)

data = pd.read_csv('./12-08-2020/12-08-2020-11-58-14.csv', header=None)
#data.columns = data.iloc[0].values
#data.columns = 'dt'
data
```

```
[28]:
```

	0	1	2	3	\
0	12-08-2020-11:58:30	Win7_64bit_node_1_CPU_User	0.00	%	
1	12-08-2020-11:58:35	Win7_64bit_node_1_CPU_User	0.25	%	
2	12-08-2020-11:58:40	Win7_64bit_node_1_CPU_User	0.12	%	
3	12-08-2020-11:58:45	Win7_64bit_node_1_CPU_User	0.37	%	
4	12-08-2020-11:58:50	Win7_64bit_node_1_CPU_User	0.24	%	
5	12-08-2020-11:58:55	Win7_64bit_node_1_CPU_User	0.12	%	
6	12-08-2020-11:59:00	Win7_64bit_node_1_CPU_User	0.00	%	
7	12-08-2020-11:59:05	Win7_64bit_node_1_CPU_User	0.12	%	
8	12-08-2020-11:59:10	Win7_64bit_node_1_CPU_User	0.12	%	

9	12-08-2020-11:59:15	Win7_64bit_node_1_CPU_User	0.12	%
10	12-08-2020-11:59:20	Win7_64bit_node_1_CPU_User	0.24	%
11	12-08-2020-11:59:25	Win7_64bit_node_1_CPU_User	0.12	%
12	12-08-2020-11:59:30	Win7_64bit_node_1_CPU_User	0.12	%
13	12-08-2020-11:59:35	Win7_64bit_node_1_CPU_User	0.12	%
14	12-08-2020-11:59:40	Win7_64bit_node_1_CPU_User	0.12	%
15	12-08-2020-11:59:45	Win7_64bit_node_1_CPU_User	0.25	%
16	12-08-2020-11:59:50	Win7_64bit_node_1_CPU_User	0.12	%
17	12-08-2020-11:59:55	Win7_64bit_node_1_CPU_User	0.12	%
18	12-08-2020-12:00:00	Win7_64bit_node_1_CPU_User	0.12	%
19	12-08-2020-12:00:05	Win7_64bit_node_1_CPU_User	0.12	%
20	12-08-2020-12:00:10	Win7_64bit_node_1_CPU_User	0.12	%
21	12-08-2020-12:00:15	Win7_64bit_node_1_CPU_User	0.12	%
22	12-08-2020-12:00:20	Win7_64bit_node_1_CPU_User	0.12	%
23	12-08-2020-12:00:25	Win7_64bit_node_1_CPU_User	0.12	%
24	12-08-2020-12:00:30	Win7_64bit_node_1_CPU_User	1.11	%
25	12-08-2020-12:00:35	Win7_64bit_node_1_CPU_User	0.12	%
26	12-08-2020-12:00:40	Win7_64bit_node_1_CPU_User	1.12	%
27	12-08-2020-12:00:45	Win7_64bit_node_1_CPU_User	0.12	%
28	12-08-2020-12:00:50	Win7_64bit_node_1_CPU_User	0.12	%
29	12-08-2020-12:00:55	Win7_64bit_node_1_CPU_User	0.24	%
..
209	12-08-2020-12:15:55	Win7_64bit_node_1_CPU_User	0.37	%
210	12-08-2020-12:16:00	Win7_64bit_node_1_CPU_User	0.24	%
211	12-08-2020-12:16:05	Win7_64bit_node_1_CPU_User	0.49	%
212	12-08-2020-12:16:10	Win7_64bit_node_1_CPU_User	0.38	%
213	12-08-2020-12:16:15	Win7_64bit_node_1_CPU_User	0.25	%
214	12-08-2020-12:16:20	Win7_64bit_node_1_CPU_User	0.37	%
215	12-08-2020-12:16:25	Win7_64bit_node_1_CPU_User	0.49	%
216	12-08-2020-12:16:30	Win7_64bit_node_1_CPU_User	0.37	%
217	12-08-2020-12:16:35	Win7_64bit_node_1_CPU_User	0.63	%
218	12-08-2020-12:16:40	Win7_64bit_node_1_CPU_User	0.25	%
219	12-08-2020-12:16:45	Win7_64bit_node_1_CPU_User	0.37	%
220	12-08-2020-12:16:50	Win7_64bit_node_1_CPU_User	0.49	%
221	12-08-2020-12:16:55	Win7_64bit_node_1_CPU_User	0.49	%
222	12-08-2020-12:17:00	Win7_64bit_node_1_CPU_User	0.37	%
223	12-08-2020-12:17:05	Win7_64bit_node_1_CPU_User	0.24	%
224	12-08-2020-12:17:10	Win7_64bit_node_1_CPU_User	0.37	%
225	12-08-2020-12:17:15	Win7_64bit_node_1_CPU_User	0.36	%
226	12-08-2020-12:17:20	Win7_64bit_node_1_CPU_User	0.37	%
227	12-08-2020-12:17:25	Win7_64bit_node_1_CPU_User	0.38	%
228	12-08-2020-12:17:30	Win7_64bit_node_1_CPU_User	0.24	%
229	12-08-2020-12:17:35	Win7_64bit_node_1_CPU_User	0.25	%
230	12-08-2020-12:17:40	Win7_64bit_node_1_CPU_User	0.37	%
231	12-08-2020-12:17:45	Win7_64bit_node_1_CPU_User	0.37	%
232	12-08-2020-12:17:50	Win7_64bit_node_1_CPU_User	0.37	%
233	12-08-2020-12:17:55	Win7_64bit_node_1_CPU_User	0.37	%

234	12-08-2020-12:18:00	Win7_64bit_node_1_CPU_User	0.24	%
235	12-08-2020-12:18:05	Win7_64bit_node_1_CPU_User	0.37	%
236	12-08-2020-12:18:10	Win7_64bit_node_1_CPU_User	0.49	%
237	12-08-2020-12:18:15	Win7_64bit_node_1_CPU_User	0.37	%
238	12-08-2020-12:18:20	Win7_64bit_node_1_CPU_User	0.24	%

		4	5	6	7	\
0	Win7_64bit_node_1_CPU_Kernel	0.25	%	Win7_64bit_node_1_RAM_Used		
1	Win7_64bit_node_1_CPU_Kernel	0.00	%	Win7_64bit_node_1_RAM_Used		
2	Win7_64bit_node_1_CPU_Kernel	0.00	%	Win7_64bit_node_1_RAM_Used		
3	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
4	Win7_64bit_node_1_CPU_Kernel	0.00	%	Win7_64bit_node_1_RAM_Used		
5	Win7_64bit_node_1_CPU_Kernel	1.25	%	Win7_64bit_node_1_RAM_Used		
6	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
7	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
8	Win7_64bit_node_1_CPU_Kernel	0.25	%	Win7_64bit_node_1_RAM_Used		
9	Win7_64bit_node_1_CPU_Kernel	0.25	%	Win7_64bit_node_1_RAM_Used		
10	Win7_64bit_node_1_CPU_Kernel	0.00	%	Win7_64bit_node_1_RAM_Used		
11	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
12	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
13	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
14	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
15	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
16	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
17	Win7_64bit_node_1_CPU_Kernel	0.00	%	Win7_64bit_node_1_RAM_Used		
18	Win7_64bit_node_1_CPU_Kernel	0.25	%	Win7_64bit_node_1_RAM_Used		
19	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
20	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
21	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
22	Win7_64bit_node_1_CPU_Kernel	0.25	%	Win7_64bit_node_1_RAM_Used		
23	Win7_64bit_node_1_CPU_Kernel	0.25	%	Win7_64bit_node_1_RAM_Used		
24	Win7_64bit_node_1_CPU_Kernel	5.21	%	Win7_64bit_node_1_RAM_Used		
25	Win7_64bit_node_1_CPU_Kernel	0.37	%	Win7_64bit_node_1_RAM_Used		
26	Win7_64bit_node_1_CPU_Kernel	6.62	%	Win7_64bit_node_1_RAM_Used		
27	Win7_64bit_node_1_CPU_Kernel	0.12	%	Win7_64bit_node_1_RAM_Used		
28	Win7_64bit_node_1_CPU_Kernel	0.25	%	Win7_64bit_node_1_RAM_Used		
29	Win7_64bit_node_1_CPU_Kernel	0.24	%	Win7_64bit_node_1_RAM_Used		
..		
209	Win7_64bit_node_1_CPU_Kernel	0.99	%	Win7_64bit_node_1_RAM_Used		
210	Win7_64bit_node_1_CPU_Kernel	1.36	%	Win7_64bit_node_1_RAM_Used		
211	Win7_64bit_node_1_CPU_Kernel	1.36	%	Win7_64bit_node_1_RAM_Used		
212	Win7_64bit_node_1_CPU_Kernel	2.16	%	Win7_64bit_node_1_RAM_Used		
213	Win7_64bit_node_1_CPU_Kernel	1.12	%	Win7_64bit_node_1_RAM_Used		
214	Win7_64bit_node_1_CPU_Kernel	5.86	%	Win7_64bit_node_1_RAM_Used		
215	Win7_64bit_node_1_CPU_Kernel	0.87	%	Win7_64bit_node_1_RAM_Used		
216	Win7_64bit_node_1_CPU_Kernel	0.86	%	Win7_64bit_node_1_RAM_Used		
217	Win7_64bit_node_1_CPU_Kernel	0.88	%	Win7_64bit_node_1_RAM_Used		

218	Win7_64bit_node_1_CPU_Kernel	1.00	%	Win7_64bit_node_1_RAM_Used
219	Win7_64bit_node_1_CPU_Kernel	1.00	%	Win7_64bit_node_1_RAM_Used
220	Win7_64bit_node_1_CPU_Kernel	0.87	%	Win7_64bit_node_1_RAM_Used
221	Win7_64bit_node_1_CPU_Kernel	1.11	%	Win7_64bit_node_1_RAM_Used
222	Win7_64bit_node_1_CPU_Kernel	1.00	%	Win7_64bit_node_1_RAM_Used
223	Win7_64bit_node_1_CPU_Kernel	1.24	%	Win7_64bit_node_1_RAM_Used
224	Win7_64bit_node_1_CPU_Kernel	0.86	%	Win7_64bit_node_1_RAM_Used
225	Win7_64bit_node_1_CPU_Kernel	0.97	%	Win7_64bit_node_1_RAM_Used
226	Win7_64bit_node_1_CPU_Kernel	4.89	%	Win7_64bit_node_1_RAM_Used
227	Win7_64bit_node_1_CPU_Kernel	1.02	%	Win7_64bit_node_1_RAM_Used
228	Win7_64bit_node_1_CPU_Kernel	1.23	%	Win7_64bit_node_1_RAM_Used
229	Win7_64bit_node_1_CPU_Kernel	1.12	%	Win7_64bit_node_1_RAM_Used
230	Win7_64bit_node_1_CPU_Kernel	1.13	%	Win7_64bit_node_1_RAM_Used
231	Win7_64bit_node_1_CPU_Kernel	0.87	%	Win7_64bit_node_1_RAM_Used
232	Win7_64bit_node_1_CPU_Kernel	1.12	%	Win7_64bit_node_1_RAM_Used
233	Win7_64bit_node_1_CPU_Kernel	0.98	%	Win7_64bit_node_1_RAM_Used
234	Win7_64bit_node_1_CPU_Kernel	1.12	%	Win7_64bit_node_1_RAM_Used
235	Win7_64bit_node_1_CPU_Kernel	1.13	%	Win7_64bit_node_1_RAM_Used
236	Win7_64bit_node_1_CPU_Kernel	0.74	%	Win7_64bit_node_1_RAM_Used
237	Win7_64bit_node_1_CPU_Kernel	0.98	%	Win7_64bit_node_1_RAM_Used
238	Win7_64bit_node_1_CPU_Kernel	7.74	%	Win7_64bit_node_1_RAM_Used

	8	9		10	11	12	\
0	2259244	kB	Win7_64bit_node_1_DISK_Used	2	MB		
1	2258156	kB	Win7_64bit_node_1_DISK_Used	2	MB		
2	2258156	kB	Win7_64bit_node_1_DISK_Used	2	MB		
3	2258156	kB	Win7_64bit_node_1_DISK_Used	2	MB		
4	2258156	kB	Win7_64bit_node_1_DISK_Used	2	MB		
5	2258156	kB	Win7_64bit_node_1_DISK_Used	2	MB		
6	2260896	kB	Win7_64bit_node_1_DISK_Used	2	MB		
7	2260768	kB	Win7_64bit_node_1_DISK_Used	2	MB		
8	2260768	kB	Win7_64bit_node_1_DISK_Used	2	MB		
9	2260768	kB	Win7_64bit_node_1_DISK_Used	2	MB		
10	2260768	kB	Win7_64bit_node_1_DISK_Used	2	MB		
11	2260768	kB	Win7_64bit_node_1_DISK_Used	2	MB		
12	2260824	kB	Win7_64bit_node_1_DISK_Used	2	MB		
13	2260824	kB	Win7_64bit_node_1_DISK_Used	2	MB		
14	2260824	kB	Win7_64bit_node_1_DISK_Used	2	MB		
15	2260824	kB	Win7_64bit_node_1_DISK_Used	2	MB		
16	2260696	kB	Win7_64bit_node_1_DISK_Used	2	MB		
17	2260696	kB	Win7_64bit_node_1_DISK_Used	2	MB		
18	2260152	kB	Win7_64bit_node_1_DISK_Used	2	MB		
19	2260152	kB	Win7_64bit_node_1_DISK_Used	2	MB		
20	2260152	kB	Win7_64bit_node_1_DISK_Used	2	MB		
21	2260152	kB	Win7_64bit_node_1_DISK_Used	2	MB		
22	2260152	kB	Win7_64bit_node_1_DISK_Used	2	MB		
23	2260152	kB	Win7_64bit_node_1_DISK_Used	2	MB		

24	2260152	kB	Win7_64bit_node_1_DISK_Used	2	MB
25	2258240	kB	Win7_64bit_node_1_DISK_Used	2	MB
26	2252560	kB	Win7_64bit_node_1_DISK_Used	2	MB
27	2252560	kB	Win7_64bit_node_1_DISK_Used	2	MB
28	2252688	kB	Win7_64bit_node_1_DISK_Used	2	MB
29	2252688	kB	Win7_64bit_node_1_DISK_Used	2	MB
..
209	2253904	kB	Win7_64bit_node_1_DISK_Used	2	MB
210	2253520	kB	Win7_64bit_node_1_DISK_Used	2	MB
211	2252496	kB	Win7_64bit_node_1_DISK_Used	2	MB
212	2252468	kB	Win7_64bit_node_1_DISK_Used	2	MB
213	2252340	kB	Win7_64bit_node_1_DISK_Used	2	MB
214	2256596	kB	Win7_64bit_node_1_DISK_Used	2	MB
215	2256736	kB	Win7_64bit_node_1_DISK_Used	2	MB
216	2256468	kB	Win7_64bit_node_1_DISK_Used	2	MB
217	2256084	kB	Win7_64bit_node_1_DISK_Used	2	MB
218	2255828	kB	Win7_64bit_node_1_DISK_Used	2	MB
219	2255572	kB	Win7_64bit_node_1_DISK_Used	2	MB
220	2255188	kB	Win7_64bit_node_1_DISK_Used	2	MB
221	2254804	kB	Win7_64bit_node_1_DISK_Used	2	MB
222	2254420	kB	Win7_64bit_node_1_DISK_Used	2	MB
223	2253908	kB	Win7_64bit_node_1_DISK_Used	2	MB
224	2253140	kB	Win7_64bit_node_1_DISK_Used	2	MB
225	2252884	kB	Win7_64bit_node_1_DISK_Used	2	MB
226	2256948	kB	Win7_64bit_node_1_DISK_Used	2	MB
227	2256604	kB	Win7_64bit_node_1_DISK_Used	2	MB
228	2256344	kB	Win7_64bit_node_1_DISK_Used	2	MB
229	2255960	kB	Win7_64bit_node_1_DISK_Used	2	MB
230	2255064	kB	Win7_64bit_node_1_DISK_Used	2	MB
231	2254808	kB	Win7_64bit_node_1_DISK_Used	2	MB
232	2254680	kB	Win7_64bit_node_1_DISK_Used	2	MB
233	2254424	kB	Win7_64bit_node_1_DISK_Used	2	MB
234	2253912	kB	Win7_64bit_node_1_DISK_Used	2	MB
235	2253400	kB	Win7_64bit_node_1_DISK_Used	2	MB
236	2252760	kB	Win7_64bit_node_1_DISK_Used	2	MB
237	2252760	kB	Win7_64bit_node_1_DISK_Used	2	MB
238	2252760	kB	Win7_64bit_node_1_DISK_Used	2	MB

		13	14	15		16	17	18	\
0	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s			
1	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s			
2	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s			
3	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s			
4	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s			
5	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s			
6	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s			
7	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s			

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233	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s
234	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s
235	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s
236	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s
237	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s
238	Win7_64bit_node_1_NET_In	0	B/s	Win7_64bit_node_1_NET_Out	0	B/s

		19	20	21		22	23	\
0	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.12			
1	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.25			
2	Win7_64bit_node_2_CPU_User	0.25	%	Win7_64bit_node_2_CPU_Kernel	0.12			
3	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.12			
4	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.24			
5	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.12			
6	Win7_64bit_node_2_CPU_User	0.00	%	Win7_64bit_node_2_CPU_Kernel	0.37			
7	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.24			
8	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.25			
9	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.25			
10	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.12			
11	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.12			
12	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.25			
13	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.12			
14	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.25			
15	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.25			
16	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.12			
17	Win7_64bit_node_2_CPU_User	0.25	%	Win7_64bit_node_2_CPU_Kernel	0.12			
18	Win7_64bit_node_2_CPU_User	0.00	%	Win7_64bit_node_2_CPU_Kernel	0.25			
19	Win7_64bit_node_2_CPU_User	0.00	%	Win7_64bit_node_2_CPU_Kernel	0.12			
20	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.12			
21	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.12			
22	Win7_64bit_node_2_CPU_User	0.25	%	Win7_64bit_node_2_CPU_Kernel	0.63			
23	Win7_64bit_node_2_CPU_User	0.00	%	Win7_64bit_node_2_CPU_Kernel	0.25			
24	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.12			
25	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.25			
26	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.25			
27	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.12			
28	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.12			
29	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	0.24			
..			
209	Win7_64bit_node_2_CPU_User	0.24	%	Win7_64bit_node_2_CPU_Kernel	1.36			
210	Win7_64bit_node_2_CPU_User	0.37	%	Win7_64bit_node_2_CPU_Kernel	0.99			
211	Win7_64bit_node_2_CPU_User	0.37	%	Win7_64bit_node_2_CPU_Kernel	1.12			
212	Win7_64bit_node_2_CPU_User	0.38	%	Win7_64bit_node_2_CPU_Kernel	1.01			
213	Win7_64bit_node_2_CPU_User	0.25	%	Win7_64bit_node_2_CPU_Kernel	1.50			
214	Win7_64bit_node_2_CPU_User	0.49	%	Win7_64bit_node_2_CPU_Kernel	1.12			
215	Win7_64bit_node_2_CPU_User	0.24	%	Win7_64bit_node_2_CPU_Kernel	1.24			
216	Win7_64bit_node_2_CPU_User	0.62	%	Win7_64bit_node_2_CPU_Kernel	0.86			

217	Win7_64bit_node_2_CPU_User	0.50	%	Win7_64bit_node_2_CPU_Kernel	1.00
218	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	1.38
219	Win7_64bit_node_2_CPU_User	1.37	%	Win7_64bit_node_2_CPU_Kernel	5.87
220	Win7_64bit_node_2_CPU_User	1.37	%	Win7_64bit_node_2_CPU_Kernel	5.99
221	Win7_64bit_node_2_CPU_User	1.48	%	Win7_64bit_node_2_CPU_Kernel	8.03
222	Win7_64bit_node_2_CPU_User	0.37	%	Win7_64bit_node_2_CPU_Kernel	1.25
223	Win7_64bit_node_2_CPU_User	0.12	%	Win7_64bit_node_2_CPU_Kernel	1.36
224	Win7_64bit_node_2_CPU_User	0.24	%	Win7_64bit_node_2_CPU_Kernel	0.99
225	Win7_64bit_node_2_CPU_User	0.36	%	Win7_64bit_node_2_CPU_Kernel	1.59
226	Win7_64bit_node_2_CPU_User	0.25	%	Win7_64bit_node_2_CPU_Kernel	1.25
227	Win7_64bit_node_2_CPU_User	0.63	%	Win7_64bit_node_2_CPU_Kernel	1.15
228	Win7_64bit_node_2_CPU_User	0.37	%	Win7_64bit_node_2_CPU_Kernel	1.23
229	Win7_64bit_node_2_CPU_User	0.25	%	Win7_64bit_node_2_CPU_Kernel	1.12
230	Win7_64bit_node_2_CPU_User	0.50	%	Win7_64bit_node_2_CPU_Kernel	1.00
231	Win7_64bit_node_2_CPU_User	0.37	%	Win7_64bit_node_2_CPU_Kernel	7.83
232	Win7_64bit_node_2_CPU_User	0.37	%	Win7_64bit_node_2_CPU_Kernel	1.25
233	Win7_64bit_node_2_CPU_User	0.24	%	Win7_64bit_node_2_CPU_Kernel	1.23
234	Win7_64bit_node_2_CPU_User	0.24	%	Win7_64bit_node_2_CPU_Kernel	1.24
235	Win7_64bit_node_2_CPU_User	0.50	%	Win7_64bit_node_2_CPU_Kernel	1.39
236	Win7_64bit_node_2_CPU_User	0.24	%	Win7_64bit_node_2_CPU_Kernel	0.99
237	Win7_64bit_node_2_CPU_User	0.24	%	Win7_64bit_node_2_CPU_Kernel	1.48
238	Win7_64bit_node_2_CPU_User	0.24	%	Win7_64bit_node_2_CPU_Kernel	0.98

	24	25	26	27	28 \
0	%	Win7_64bit_node_2_RAM_Used	1769572	kB	Win7_64bit_node_2_DISK_Used
1	%	Win7_64bit_node_2_RAM_Used	1769168	kB	Win7_64bit_node_2_DISK_Used
2	%	Win7_64bit_node_2_RAM_Used	1769168	kB	Win7_64bit_node_2_DISK_Used
3	%	Win7_64bit_node_2_RAM_Used	1769168	kB	Win7_64bit_node_2_DISK_Used
4	%	Win7_64bit_node_2_RAM_Used	1769168	kB	Win7_64bit_node_2_DISK_Used
5	%	Win7_64bit_node_2_RAM_Used	1769168	kB	Win7_64bit_node_2_DISK_Used
6	%	Win7_64bit_node_2_RAM_Used	2243776	kB	Win7_64bit_node_2_DISK_Used
7	%	Win7_64bit_node_2_RAM_Used	2243776	kB	Win7_64bit_node_2_DISK_Used
8	%	Win7_64bit_node_2_RAM_Used	2243776	kB	Win7_64bit_node_2_DISK_Used
9	%	Win7_64bit_node_2_RAM_Used	2243776	kB	Win7_64bit_node_2_DISK_Used
10	%	Win7_64bit_node_2_RAM_Used	2243776	kB	Win7_64bit_node_2_DISK_Used
11	%	Win7_64bit_node_2_RAM_Used	2243776	kB	Win7_64bit_node_2_DISK_Used
12	%	Win7_64bit_node_2_RAM_Used	2249644	kB	Win7_64bit_node_2_DISK_Used
13	%	Win7_64bit_node_2_RAM_Used	2249644	kB	Win7_64bit_node_2_DISK_Used
14	%	Win7_64bit_node_2_RAM_Used	2249644	kB	Win7_64bit_node_2_DISK_Used
15	%	Win7_64bit_node_2_RAM_Used	2249644	kB	Win7_64bit_node_2_DISK_Used
16	%	Win7_64bit_node_2_RAM_Used	2249644	kB	Win7_64bit_node_2_DISK_Used
17	%	Win7_64bit_node_2_RAM_Used	2249644	kB	Win7_64bit_node_2_DISK_Used
18	%	Win7_64bit_node_2_RAM_Used	2249296	kB	Win7_64bit_node_2_DISK_Used
19	%	Win7_64bit_node_2_RAM_Used	2249296	kB	Win7_64bit_node_2_DISK_Used
20	%	Win7_64bit_node_2_RAM_Used	2249296	kB	Win7_64bit_node_2_DISK_Used
21	%	Win7_64bit_node_2_RAM_Used	2249296	kB	Win7_64bit_node_2_DISK_Used
22	%	Win7_64bit_node_2_RAM_Used	2249296	kB	Win7_64bit_node_2_DISK_Used

23	%	Win7_64bit_node_2_RAM_Used	2249296	kB	Win7_64bit_node_2_DISK_Used
24	%	Win7_64bit_node_2_RAM_Used	2249296	kB	Win7_64bit_node_2_DISK_Used
25	%	Win7_64bit_node_2_RAM_Used	2248612	kB	Win7_64bit_node_2_DISK_Used
26	%	Win7_64bit_node_2_RAM_Used	2246576	kB	Win7_64bit_node_2_DISK_Used
27	%	Win7_64bit_node_2_RAM_Used	2246576	kB	Win7_64bit_node_2_DISK_Used
28	%	Win7_64bit_node_2_RAM_Used	2246576	kB	Win7_64bit_node_2_DISK_Used
29	%	Win7_64bit_node_2_RAM_Used	2246576	kB	Win7_64bit_node_2_DISK_Used
..
209	%	Win7_64bit_node_2_RAM_Used	2257896	kB	Win7_64bit_node_2_DISK_Used
210	%	Win7_64bit_node_2_RAM_Used	2257716	kB	Win7_64bit_node_2_DISK_Used
211	%	Win7_64bit_node_2_RAM_Used	2257744	kB	Win7_64bit_node_2_DISK_Used
212	%	Win7_64bit_node_2_RAM_Used	2257744	kB	Win7_64bit_node_2_DISK_Used
213	%	Win7_64bit_node_2_RAM_Used	2257848	kB	Win7_64bit_node_2_DISK_Used
214	%	Win7_64bit_node_2_RAM_Used	2257844	kB	Win7_64bit_node_2_DISK_Used
215	%	Win7_64bit_node_2_RAM_Used	2257844	kB	Win7_64bit_node_2_DISK_Used
216	%	Win7_64bit_node_2_RAM_Used	2257844	kB	Win7_64bit_node_2_DISK_Used
217	%	Win7_64bit_node_2_RAM_Used	2257844	kB	Win7_64bit_node_2_DISK_Used
218	%	Win7_64bit_node_2_RAM_Used	2257844	kB	Win7_64bit_node_2_DISK_Used
219	%	Win7_64bit_node_2_RAM_Used	2257844	kB	Win7_64bit_node_2_DISK_Used
220	%	Win7_64bit_node_2_RAM_Used	2257588	kB	Win7_64bit_node_2_DISK_Used
221	%	Win7_64bit_node_2_RAM_Used	2257588	kB	Win7_64bit_node_2_DISK_Used
222	%	Win7_64bit_node_2_RAM_Used	2257332	kB	Win7_64bit_node_2_DISK_Used
223	%	Win7_64bit_node_2_RAM_Used	2257332	kB	Win7_64bit_node_2_DISK_Used
224	%	Win7_64bit_node_2_RAM_Used	2257332	kB	Win7_64bit_node_2_DISK_Used
225	%	Win7_64bit_node_2_RAM_Used	2257204	kB	Win7_64bit_node_2_DISK_Used
226	%	Win7_64bit_node_2_RAM_Used	2257076	kB	Win7_64bit_node_2_DISK_Used
227	%	Win7_64bit_node_2_RAM_Used	2257076	kB	Win7_64bit_node_2_DISK_Used
228	%	Win7_64bit_node_2_RAM_Used	2257076	kB	Win7_64bit_node_2_DISK_Used
229	%	Win7_64bit_node_2_RAM_Used	2257076	kB	Win7_64bit_node_2_DISK_Used
230	%	Win7_64bit_node_2_RAM_Used	2256948	kB	Win7_64bit_node_2_DISK_Used
231	%	Win7_64bit_node_2_RAM_Used	2257204	kB	Win7_64bit_node_2_DISK_Used
232	%	Win7_64bit_node_2_RAM_Used	2257076	kB	Win7_64bit_node_2_DISK_Used
233	%	Win7_64bit_node_2_RAM_Used	2256948	kB	Win7_64bit_node_2_DISK_Used
234	%	Win7_64bit_node_2_RAM_Used	2256692	kB	Win7_64bit_node_2_DISK_Used
235	%	Win7_64bit_node_2_RAM_Used	2256436	kB	Win7_64bit_node_2_DISK_Used
236	%	Win7_64bit_node_2_RAM_Used	2256308	kB	Win7_64bit_node_2_DISK_Used
237	%	Win7_64bit_node_2_RAM_Used	2256052	kB	Win7_64bit_node_2_DISK_Used
238	%	Win7_64bit_node_2_RAM_Used	2255668	kB	Win7_64bit_node_2_DISK_Used

	29	30		31	32	33		34	35	\
0	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0			
1	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0			
2	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0			
3	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0			
4	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0			
5	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0			
6	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0			

[illegible]

232	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0
233	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0
234	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0
235	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0
236	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0
237	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0
238	2	MB	Win7_64bit_node_2_NET_In	0	B/s	Win7_64bit_node_2_NET_Out	0

	36		37	38	39		40 \
0	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
1	B/s	Win7_64bit_node_3_CPU_User	0.00	%	Win7_64bit_node_3_CPU_Kernel		
2	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
3	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
4	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
5	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel		
6	B/s	Win7_64bit_node_3_CPU_User	0.24	%	Win7_64bit_node_3_CPU_Kernel		
7	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
8	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel		
9	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel		
10	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
11	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
12	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
13	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel		
14	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel		
15	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
16	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel		
17	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
18	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
19	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
20	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
21	B/s	Win7_64bit_node_3_CPU_User	0.00	%	Win7_64bit_node_3_CPU_Kernel		
22	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel		
23	B/s	Win7_64bit_node_3_CPU_User	0.00	%	Win7_64bit_node_3_CPU_Kernel		
24	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
25	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel		
26	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel		
27	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
28	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel		
29	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel		
..		
209	B/s	Win7_64bit_node_3_CPU_User	0.86	%	Win7_64bit_node_3_CPU_Kernel		
210	B/s	Win7_64bit_node_3_CPU_User	2.48	%	Win7_64bit_node_3_CPU_Kernel		
211	B/s	Win7_64bit_node_3_CPU_User	0.37	%	Win7_64bit_node_3_CPU_Kernel		
212	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel		
213	B/s	Win7_64bit_node_3_CPU_User	0.50	%	Win7_64bit_node_3_CPU_Kernel		
214	B/s	Win7_64bit_node_3_CPU_User	0.37	%	Win7_64bit_node_3_CPU_Kernel		
215	B/s	Win7_64bit_node_3_CPU_User	0.24	%	Win7_64bit_node_3_CPU_Kernel		

216	B/s	Win7_64bit_node_3_CPU_User	0.37	%	Win7_64bit_node_3_CPU_Kernel
217	B/s	Win7_64bit_node_3_CPU_User	0.37	%	Win7_64bit_node_3_CPU_Kernel
218	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel
219	B/s	Win7_64bit_node_3_CPU_User	0.75	%	Win7_64bit_node_3_CPU_Kernel
220	B/s	Win7_64bit_node_3_CPU_User	0.24	%	Win7_64bit_node_3_CPU_Kernel
221	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel
222	B/s	Win7_64bit_node_3_CPU_User	0.37	%	Win7_64bit_node_3_CPU_Kernel
223	B/s	Win7_64bit_node_3_CPU_User	0.24	%	Win7_64bit_node_3_CPU_Kernel
224	B/s	Win7_64bit_node_3_CPU_User	0.24	%	Win7_64bit_node_3_CPU_Kernel
225	B/s	Win7_64bit_node_3_CPU_User	0.36	%	Win7_64bit_node_3_CPU_Kernel
226	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel
227	B/s	Win7_64bit_node_3_CPU_User	0.38	%	Win7_64bit_node_3_CPU_Kernel
228	B/s	Win7_64bit_node_3_CPU_User	0.37	%	Win7_64bit_node_3_CPU_Kernel
229	B/s	Win7_64bit_node_3_CPU_User	0.50	%	Win7_64bit_node_3_CPU_Kernel
230	B/s	Win7_64bit_node_3_CPU_User	0.37	%	Win7_64bit_node_3_CPU_Kernel
231	B/s	Win7_64bit_node_3_CPU_User	0.37	%	Win7_64bit_node_3_CPU_Kernel
232	B/s	Win7_64bit_node_3_CPU_User	0.37	%	Win7_64bit_node_3_CPU_Kernel
233	B/s	Win7_64bit_node_3_CPU_User	0.49	%	Win7_64bit_node_3_CPU_Kernel
234	B/s	Win7_64bit_node_3_CPU_User	0.37	%	Win7_64bit_node_3_CPU_Kernel
235	B/s	Win7_64bit_node_3_CPU_User	0.25	%	Win7_64bit_node_3_CPU_Kernel
236	B/s	Win7_64bit_node_3_CPU_User	0.24	%	Win7_64bit_node_3_CPU_Kernel
237	B/s	Win7_64bit_node_3_CPU_User	0.37	%	Win7_64bit_node_3_CPU_Kernel
238	B/s	Win7_64bit_node_3_CPU_User	0.12	%	Win7_64bit_node_3_CPU_Kernel

	41	42		43	44	45	\
0	0.12	%	Win7_64bit_node_3_RAM_Used	1748920	kB		
1	0.25	%	Win7_64bit_node_3_RAM_Used	1748592	kB		
2	0.12	%	Win7_64bit_node_3_RAM_Used	1748592	kB		
3	0.25	%	Win7_64bit_node_3_RAM_Used	1748604	kB		
4	0.12	%	Win7_64bit_node_3_RAM_Used	1748604	kB		
5	0.12	%	Win7_64bit_node_3_RAM_Used	1748604	kB		
6	0.12	%	Win7_64bit_node_3_RAM_Used	2264492	kB		
7	0.24	%	Win7_64bit_node_3_RAM_Used	2265580	kB		
8	0.25	%	Win7_64bit_node_3_RAM_Used	2265580	kB		
9	0.12	%	Win7_64bit_node_3_RAM_Used	2265580	kB		
10	0.12	%	Win7_64bit_node_3_RAM_Used	2265580	kB		
11	0.12	%	Win7_64bit_node_3_RAM_Used	2265580	kB		
12	0.25	%	Win7_64bit_node_3_RAM_Used	2270256	kB		
13	0.12	%	Win7_64bit_node_3_RAM_Used	2270256	kB		
14	0.12	%	Win7_64bit_node_3_RAM_Used	2270256	kB		
15	0.12	%	Win7_64bit_node_3_RAM_Used	2270256	kB		
16	0.12	%	Win7_64bit_node_3_RAM_Used	2270256	kB		
17	0.12	%	Win7_64bit_node_3_RAM_Used	2270256	kB		
18	0.25	%	Win7_64bit_node_3_RAM_Used	2270012	kB		
19	0.25	%	Win7_64bit_node_3_RAM_Used	2270012	kB		
20	0.12	%	Win7_64bit_node_3_RAM_Used	2270012	kB		
21	0.25	%	Win7_64bit_node_3_RAM_Used	2270012	kB		

22	0.63	%	Win7_64bit_node_3_RAM_Used	2270012	kB
23	0.25	%	Win7_64bit_node_3_RAM_Used	2270012	kB
24	0.24	%	Win7_64bit_node_3_RAM_Used	2270012	kB
25	0.00	%	Win7_64bit_node_3_RAM_Used	2269288	kB
26	0.12	%	Win7_64bit_node_3_RAM_Used	2267340	kB
27	0.12	%	Win7_64bit_node_3_RAM_Used	2270088	kB
28	0.00	%	Win7_64bit_node_3_RAM_Used	2270088	kB
29	0.12	%	Win7_64bit_node_3_RAM_Used	2270088	kB
..
209	3.60	%	Win7_64bit_node_3_RAM_Used	2275880	kB
210	7.58	%	Win7_64bit_node_3_RAM_Used	2275880	kB
211	1.12	%	Win7_64bit_node_3_RAM_Used	2275880	kB
212	1.27	%	Win7_64bit_node_3_RAM_Used	2275880	kB
213	0.87	%	Win7_64bit_node_3_RAM_Used	2275880	kB
214	1.12	%	Win7_64bit_node_3_RAM_Used	2275880	kB
215	1.24	%	Win7_64bit_node_3_RAM_Used	2275752	kB
216	0.99	%	Win7_64bit_node_3_RAM_Used	2275752	kB
217	1.13	%	Win7_64bit_node_3_RAM_Used	2275752	kB
218	1.25	%	Win7_64bit_node_3_RAM_Used	2275752	kB
219	11.37	%	Win7_64bit_node_3_RAM_Used	2276148	kB
220	1.24	%	Win7_64bit_node_3_RAM_Used	2275112	kB
221	1.23	%	Win7_64bit_node_3_RAM_Used	2275496	kB
222	1.12	%	Win7_64bit_node_3_RAM_Used	2274984	kB
223	2.36	%	Win7_64bit_node_3_RAM_Used	2274856	kB
224	1.24	%	Win7_64bit_node_3_RAM_Used	2274600	kB
225	1.22	%	Win7_64bit_node_3_RAM_Used	2274472	kB
226	1.38	%	Win7_64bit_node_3_RAM_Used	2274216	kB
227	1.15	%	Win7_64bit_node_3_RAM_Used	2273704	kB
228	1.23	%	Win7_64bit_node_3_RAM_Used	2272424	kB
229	0.87	%	Win7_64bit_node_3_RAM_Used	2272040	kB
230	1.00	%	Win7_64bit_node_3_RAM_Used	2272040	kB
231	3.48	%	Win7_64bit_node_3_RAM_Used	2272040	kB
232	1.25	%	Win7_64bit_node_3_RAM_Used	2275508	kB
233	0.98	%	Win7_64bit_node_3_RAM_Used	2275368	kB
234	0.99	%	Win7_64bit_node_3_RAM_Used	2274856	kB
235	1.26	%	Win7_64bit_node_3_RAM_Used	2274856	kB
236	1.37	%	Win7_64bit_node_3_RAM_Used	2274600	kB
237	1.11	%	Win7_64bit_node_3_RAM_Used	2274600	kB
238	1.10	%	Win7_64bit_node_3_RAM_Used	2274600	kB

		46	47	48		49	50	51	\
0	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s			
1	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s			
2	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s			
3	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s			
4	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s			
5	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s			

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231	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s
232	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s
233	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s
234	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s
235	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s
236	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s
237	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s
238	Win7_64bit_node_3_DISK_Used	2	MB	Win7_64bit_node_3_NET_In	0	B/s

		52	53	54		55	56	57	\
0	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
1	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
2	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
3	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
4	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.24	%			
5	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.00	%			
6	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
7	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.00	%			
8	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.25	%			
9	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
10	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
11	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
12	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.00	%			
13	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
14	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
15	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
16	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
17	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
18	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
19	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.00	%			
20	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.00	%			
21	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
22	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
23	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.25	%			
24	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
25	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.25	%			
26	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.25	%			
27	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
28	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%			
29	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.24	%			
..			
209	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.37	%			
210	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.49	%			
211	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.37	%			
212	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.25	%			
213	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.25	%			
214	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.37	%			

215	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.37	%
216	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.24	%
217	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	1.13	%
218	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	2.26	%
219	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.37	%
220	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.37	%
221	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.37	%
222	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.25	%
223	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.37	%
224	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.37	%
225	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.48	%
226	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.62	%
227	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.25	%
228	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.37	%
229	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.37	%
230	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.25	%
231	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.12	%
232	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.25	%
233	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.24	%
234	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.37	%
235	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.25	%
236	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.24	%
237	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.24	%
238	Win7_64bit_node_3_NET_Out	0	B/s	Win7_64bit_node_4_CPU_User	0.36	%

		58	59	60	61 \
0	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
1	Win7_64bit_node_4_CPU_Kernel	0.00	%	Win7_64bit_node_4_RAM_Used	
2	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
3	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
4	Win7_64bit_node_4_CPU_Kernel	0.00	%	Win7_64bit_node_4_RAM_Used	
5	Win7_64bit_node_4_CPU_Kernel	0.25	%	Win7_64bit_node_4_RAM_Used	
6	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
7	Win7_64bit_node_4_CPU_Kernel	1.37	%	Win7_64bit_node_4_RAM_Used	
8	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
9	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
10	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
11	Win7_64bit_node_4_CPU_Kernel	0.00	%	Win7_64bit_node_4_RAM_Used	
12	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
13	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
14	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
15	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
16	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
17	Win7_64bit_node_4_CPU_Kernel	0.25	%	Win7_64bit_node_4_RAM_Used	
18	Win7_64bit_node_4_CPU_Kernel	0.25	%	Win7_64bit_node_4_RAM_Used	
19	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used	
20	Win7_64bit_node_4_CPU_Kernel	0.25	%	Win7_64bit_node_4_RAM_Used	

21	Win7_64bit_node_4_CPU_Kernel	0.00	%	Win7_64bit_node_4_RAM_Used
22	Win7_64bit_node_4_CPU_Kernel	0.25	%	Win7_64bit_node_4_RAM_Used
23	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used
24	Win7_64bit_node_4_CPU_Kernel	0.00	%	Win7_64bit_node_4_RAM_Used
25	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used
26	Win7_64bit_node_4_CPU_Kernel	0.00	%	Win7_64bit_node_4_RAM_Used
27	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used
28	Win7_64bit_node_4_CPU_Kernel	0.12	%	Win7_64bit_node_4_RAM_Used
29	Win7_64bit_node_4_CPU_Kernel	0.00	%	Win7_64bit_node_4_RAM_Used
..
209	Win7_64bit_node_4_CPU_Kernel	1.36	%	Win7_64bit_node_4_RAM_Used
210	Win7_64bit_node_4_CPU_Kernel	2.73	%	Win7_64bit_node_4_RAM_Used
211	Win7_64bit_node_4_CPU_Kernel	1.36	%	Win7_64bit_node_4_RAM_Used
212	Win7_64bit_node_4_CPU_Kernel	1.39	%	Win7_64bit_node_4_RAM_Used
213	Win7_64bit_node_4_CPU_Kernel	1.12	%	Win7_64bit_node_4_RAM_Used
214	Win7_64bit_node_4_CPU_Kernel	0.99	%	Win7_64bit_node_4_RAM_Used
215	Win7_64bit_node_4_CPU_Kernel	1.12	%	Win7_64bit_node_4_RAM_Used
216	Win7_64bit_node_4_CPU_Kernel	1.11	%	Win7_64bit_node_4_RAM_Used
217	Win7_64bit_node_4_CPU_Kernel	4.03	%	Win7_64bit_node_4_RAM_Used
218	Win7_64bit_node_4_CPU_Kernel	11.18	%	Win7_64bit_node_4_RAM_Used
219	Win7_64bit_node_4_CPU_Kernel	1.12	%	Win7_64bit_node_4_RAM_Used
220	Win7_64bit_node_4_CPU_Kernel	1.24	%	Win7_64bit_node_4_RAM_Used
221	Win7_64bit_node_4_CPU_Kernel	1.11	%	Win7_64bit_node_4_RAM_Used
222	Win7_64bit_node_4_CPU_Kernel	1.37	%	Win7_64bit_node_4_RAM_Used
223	Win7_64bit_node_4_CPU_Kernel	1.12	%	Win7_64bit_node_4_RAM_Used
224	Win7_64bit_node_4_CPU_Kernel	1.11	%	Win7_64bit_node_4_RAM_Used
225	Win7_64bit_node_4_CPU_Kernel	0.97	%	Win7_64bit_node_4_RAM_Used
226	Win7_64bit_node_4_CPU_Kernel	0.75	%	Win7_64bit_node_4_RAM_Used
227	Win7_64bit_node_4_CPU_Kernel	1.15	%	Win7_64bit_node_4_RAM_Used
228	Win7_64bit_node_4_CPU_Kernel	0.99	%	Win7_64bit_node_4_RAM_Used
229	Win7_64bit_node_4_CPU_Kernel	1.12	%	Win7_64bit_node_4_RAM_Used
230	Win7_64bit_node_4_CPU_Kernel	1.25	%	Win7_64bit_node_4_RAM_Used
231	Win7_64bit_node_4_CPU_Kernel	1.36	%	Win7_64bit_node_4_RAM_Used
232	Win7_64bit_node_4_CPU_Kernel	1.50	%	Win7_64bit_node_4_RAM_Used
233	Win7_64bit_node_4_CPU_Kernel	1.35	%	Win7_64bit_node_4_RAM_Used
234	Win7_64bit_node_4_CPU_Kernel	1.12	%	Win7_64bit_node_4_RAM_Used
235	Win7_64bit_node_4_CPU_Kernel	1.26	%	Win7_64bit_node_4_RAM_Used
236	Win7_64bit_node_4_CPU_Kernel	1.62	%	Win7_64bit_node_4_RAM_Used
237	Win7_64bit_node_4_CPU_Kernel	0.98	%	Win7_64bit_node_4_RAM_Used
238	Win7_64bit_node_4_CPU_Kernel	1.10	%	Win7_64bit_node_4_RAM_Used

	62	63		64	65	66	\
0	1581108	kB	Win7_64bit_node_4_DISK_Used	2	MB		
1	1580784	kB	Win7_64bit_node_4_DISK_Used	2	MB		
2	1580784	kB	Win7_64bit_node_4_DISK_Used	2	MB		
3	1580784	kB	Win7_64bit_node_4_DISK_Used	2	MB		
4	1580784	kB	Win7_64bit_node_4_DISK_Used	2	MB		

5	1580804	kB	Win7_64bit_node_4_DISK_Used	2	MB
6	2242888	kB	Win7_64bit_node_4_DISK_Used	2	MB
7	2242888	kB	Win7_64bit_node_4_DISK_Used	2	MB
8	2242888	kB	Win7_64bit_node_4_DISK_Used	2	MB
9	2243152	kB	Win7_64bit_node_4_DISK_Used	2	MB
10	2243152	kB	Win7_64bit_node_4_DISK_Used	2	MB
11	2243152	kB	Win7_64bit_node_4_DISK_Used	2	MB
12	2243080	kB	Win7_64bit_node_4_DISK_Used	2	MB
13	2243080	kB	Win7_64bit_node_4_DISK_Used	2	MB
14	2243080	kB	Win7_64bit_node_4_DISK_Used	2	MB
15	2243080	kB	Win7_64bit_node_4_DISK_Used	2	MB
16	2243080	kB	Win7_64bit_node_4_DISK_Used	2	MB
17	2243080	kB	Win7_64bit_node_4_DISK_Used	2	MB
18	2247576	kB	Win7_64bit_node_4_DISK_Used	2	MB
19	2247576	kB	Win7_64bit_node_4_DISK_Used	2	MB
20	2247576	kB	Win7_64bit_node_4_DISK_Used	2	MB
21	2247576	kB	Win7_64bit_node_4_DISK_Used	2	MB
22	2247576	kB	Win7_64bit_node_4_DISK_Used	2	MB
23	2247576	kB	Win7_64bit_node_4_DISK_Used	2	MB
24	2247576	kB	Win7_64bit_node_4_DISK_Used	2	MB
25	2246996	kB	Win7_64bit_node_4_DISK_Used	2	MB
26	2245088	kB	Win7_64bit_node_4_DISK_Used	2	MB
27	2245088	kB	Win7_64bit_node_4_DISK_Used	2	MB
28	2245088	kB	Win7_64bit_node_4_DISK_Used	2	MB
29	2245088	kB	Win7_64bit_node_4_DISK_Used	2	MB
..
209	2254192	kB	Win7_64bit_node_4_DISK_Used	2	MB
210	2254192	kB	Win7_64bit_node_4_DISK_Used	2	MB
211	2254172	kB	Win7_64bit_node_4_DISK_Used	2	MB
212	2254172	kB	Win7_64bit_node_4_DISK_Used	2	MB
213	2254172	kB	Win7_64bit_node_4_DISK_Used	2	MB
214	2254172	kB	Win7_64bit_node_4_DISK_Used	2	MB
215	2254172	kB	Win7_64bit_node_4_DISK_Used	2	MB
216	2254172	kB	Win7_64bit_node_4_DISK_Used	2	MB
217	2254044	kB	Win7_64bit_node_4_DISK_Used	2	MB
218	2254044	kB	Win7_64bit_node_4_DISK_Used	2	MB
219	2254044	kB	Win7_64bit_node_4_DISK_Used	2	MB
220	2253916	kB	Win7_64bit_node_4_DISK_Used	2	MB
221	2253916	kB	Win7_64bit_node_4_DISK_Used	2	MB
222	2253916	kB	Win7_64bit_node_4_DISK_Used	2	MB
223	2253660	kB	Win7_64bit_node_4_DISK_Used	2	MB
224	2253660	kB	Win7_64bit_node_4_DISK_Used	2	MB
225	2253660	kB	Win7_64bit_node_4_DISK_Used	2	MB
226	2253660	kB	Win7_64bit_node_4_DISK_Used	2	MB
227	2253660	kB	Win7_64bit_node_4_DISK_Used	2	MB
228	2253660	kB	Win7_64bit_node_4_DISK_Used	2	MB
229	2253276	kB	Win7_64bit_node_4_DISK_Used	2	MB

230	2253532	kB	Win7_64bit_node_4_DISK_Used	2	MB
231	2253148	kB	Win7_64bit_node_4_DISK_Used	2	MB
232	2252636	kB	Win7_64bit_node_4_DISK_Used	2	MB
233	2252508	kB	Win7_64bit_node_4_DISK_Used	2	MB
234	2252380	kB	Win7_64bit_node_4_DISK_Used	2	MB
235	2252252	kB	Win7_64bit_node_4_DISK_Used	2	MB
236	2251612	kB	Win7_64bit_node_4_DISK_Used	2	MB
237	2250332	kB	Win7_64bit_node_4_DISK_Used	2	MB
238	2249820	kB	Win7_64bit_node_4_DISK_Used	2	MB

		67	68	69		70	71	72	\
0	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
1	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
2	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
3	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
4	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
5	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
6	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
7	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
8	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
9	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
10	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
11	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
12	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
13	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
14	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
15	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
16	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
17	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
18	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
19	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
20	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
21	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
22	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
23	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
24	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
25	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
26	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
27	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
28	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
29	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
..			
209	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
210	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
211	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
212	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			
213	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s			

214	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
215	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
216	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
217	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
218	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
219	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
220	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
221	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
222	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
223	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
224	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
225	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
226	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
227	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
228	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
229	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
230	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
231	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
232	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
233	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
234	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
235	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
236	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
237	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s
238	Win7_64bit_node_4_NET_In	0	B/s	Win7_64bit_node_4_NET_Out	0	B/s

	73	74	75		76	77	78	\
0	ubuntu_net_CPU_User	1.00	%	ubuntu_net_CPU_Kernel	2.87	%		
1	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.25	%		
2	ubuntu_net_CPU_User	0.88	%	ubuntu_net_CPU_Kernel	2.65	%		
3	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.25	%		
4	ubuntu_net_CPU_User	0.24	%	ubuntu_net_CPU_Kernel	0.74	%		
5	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	0.25	%		
6	ubuntu_net_CPU_User	0.24	%	ubuntu_net_CPU_Kernel	1.24	%		
7	ubuntu_net_CPU_User	0.24	%	ubuntu_net_CPU_Kernel	0.24	%		
8	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.25	%		
9	ubuntu_net_CPU_User	0.00	%	ubuntu_net_CPU_Kernel	0.37	%		
10	ubuntu_net_CPU_User	0.24	%	ubuntu_net_CPU_Kernel	0.12	%		
11	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.25	%		
12	ubuntu_net_CPU_User	0.00	%	ubuntu_net_CPU_Kernel	0.25	%		
13	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.25	%		
14	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.12	%		
15	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	0.25	%		
16	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.25	%		
17	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.25	%		
18	ubuntu_net_CPU_User	0.00	%	ubuntu_net_CPU_Kernel	0.25	%		
19	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	0.25	%		

20	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.25	%
21	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.25	%
22	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	0.88	%
23	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.25	%
24	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.37	%
25	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	0.12	%
26	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	0.37	%
27	ubuntu_net_CPU_User	0.37	%	ubuntu_net_CPU_Kernel	1.36	%
28	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	1.25	%
29	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	1.11	%

..
209	ubuntu_net_CPU_User	0.00	%	ubuntu_net_CPU_Kernel	0.74	%
210	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.49	%
211	ubuntu_net_CPU_User	0.00	%	ubuntu_net_CPU_Kernel	0.49	%
212	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	1.01	%
213	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	1.25	%
214	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	1.24	%
215	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	1.12	%
216	ubuntu_net_CPU_User	0.24	%	ubuntu_net_CPU_Kernel	0.37	%
217	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.50	%
218	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.62	%
219	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	0.87	%
220	ubuntu_net_CPU_User	0.24	%	ubuntu_net_CPU_Kernel	0.74	%
221	ubuntu_net_CPU_User	0.24	%	ubuntu_net_CPU_Kernel	0.98	%
222	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.62	%
223	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.49	%
224	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.49	%
225	ubuntu_net_CPU_User	0.24	%	ubuntu_net_CPU_Kernel	0.48	%
226	ubuntu_net_CPU_User	0.37	%	ubuntu_net_CPU_Kernel	1.75	%
227	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	1.27	%
228	ubuntu_net_CPU_User	0.24	%	ubuntu_net_CPU_Kernel	0.99	%
229	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	1.25	%
230	ubuntu_net_CPU_User	0.62	%	ubuntu_net_CPU_Kernel	2.01	%
231	ubuntu_net_CPU_User	0.24	%	ubuntu_net_CPU_Kernel	0.37	%
232	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	1.62	%
233	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	1.60	%
234	ubuntu_net_CPU_User	0.24	%	ubuntu_net_CPU_Kernel	1.49	%
235	ubuntu_net_CPU_User	0.25	%	ubuntu_net_CPU_Kernel	0.63	%
236	ubuntu_net_CPU_User	0.12	%	ubuntu_net_CPU_Kernel	0.49	%
237	ubuntu_net_CPU_User	0.24	%	ubuntu_net_CPU_Kernel	0.37	%
238	ubuntu_net_CPU_User	0.00	%	ubuntu_net_CPU_Kernel	0.36	%

		79	80	81		82	83	84	\
0	ubuntu_net_RAM_Used	2139452	kB	ubuntu_net_DISK_Used	2	MB			
1	ubuntu_net_RAM_Used	2138556	kB	ubuntu_net_DISK_Used	2	MB			
2	ubuntu_net_RAM_Used	2138820	kB	ubuntu_net_DISK_Used	2	MB			
3	ubuntu_net_RAM_Used	2138820	kB	ubuntu_net_DISK_Used	2	MB			

[illegible]

229	ubuntu_net_RAM_Used	2237652	kB	ubuntu_net_DISK_Used	2	MB
230	ubuntu_net_RAM_Used	2237676	kB	ubuntu_net_DISK_Used	2	MB
231	ubuntu_net_RAM_Used	2237676	kB	ubuntu_net_DISK_Used	2	MB
232	ubuntu_net_RAM_Used	2237676	kB	ubuntu_net_DISK_Used	2	MB
233	ubuntu_net_RAM_Used	2237676	kB	ubuntu_net_DISK_Used	2	MB
234	ubuntu_net_RAM_Used	2237676	kB	ubuntu_net_DISK_Used	2	MB
235	ubuntu_net_RAM_Used	2237676	kB	ubuntu_net_DISK_Used	2	MB
236	ubuntu_net_RAM_Used	2237676	kB	ubuntu_net_DISK_Used	2	MB
237	ubuntu_net_RAM_Used	2237676	kB	ubuntu_net_DISK_Used	2	MB
238	ubuntu_net_RAM_Used	2237676	kB	ubuntu_net_DISK_Used	2	MB

		85	86	87		88	89	90
0	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
1	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
2	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
3	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
4	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
5	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
6	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
7	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
8	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
9	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
10	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
11	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
12	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
13	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
14	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
15	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
16	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
17	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
18	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
19	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
20	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
21	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
22	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
23	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
24	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
25	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
26	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
27	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
28	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
29	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
..		
209	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
210	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
211	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		
212	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s		

213	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
214	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
215	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
216	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
217	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
218	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
219	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
220	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
221	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
222	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
223	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
224	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
225	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
226	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
227	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
228	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
229	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
230	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
231	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
232	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
233	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
234	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
235	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
236	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
237	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s
238	ubuntu_net_NET_In	0	B/s	ubuntu_net_NET_Out	0	B/s

[239 rows x 91 columns]

```
[52]: m = [2,20,38,56]

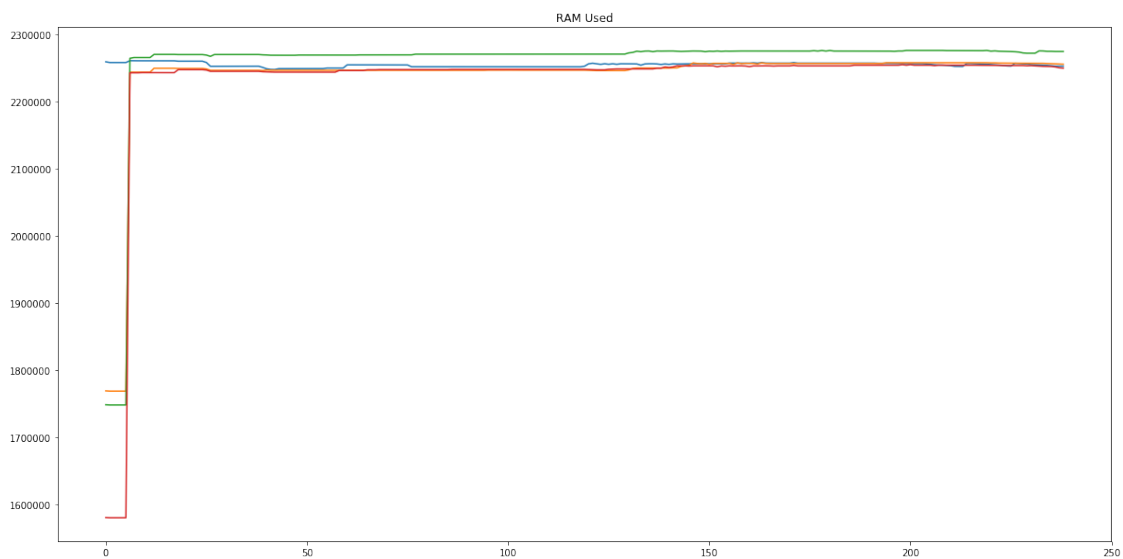
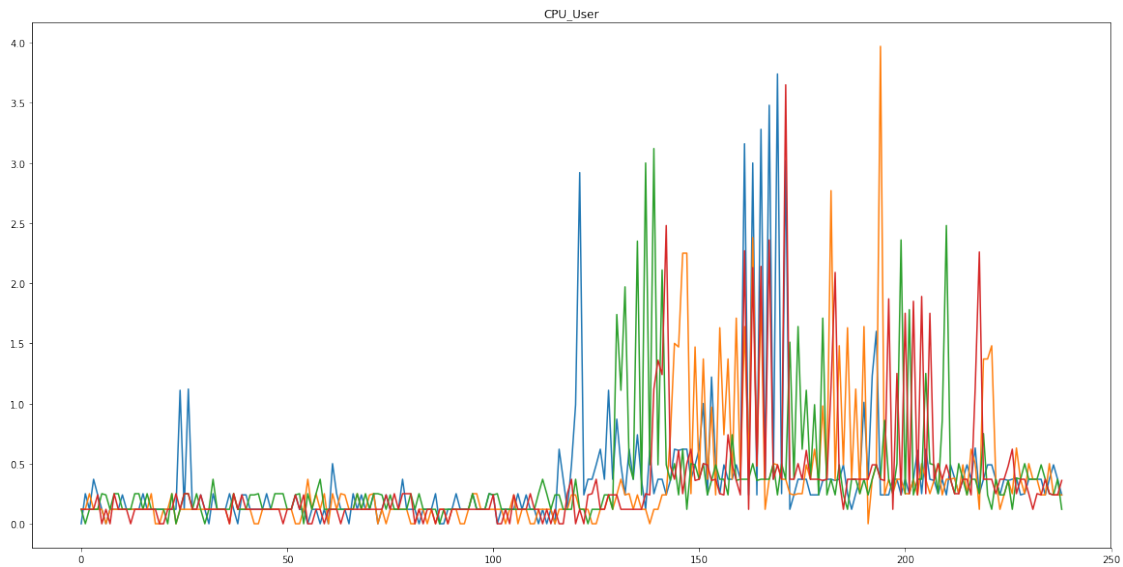
plt.figure(figsize=(20,10))
plt.plot(data[m[0]])
plt.plot(data[m[1]])
plt.plot(data[m[2]])
plt.plot(data[m[3]])
plt.title("CPU_User")
plt.show()

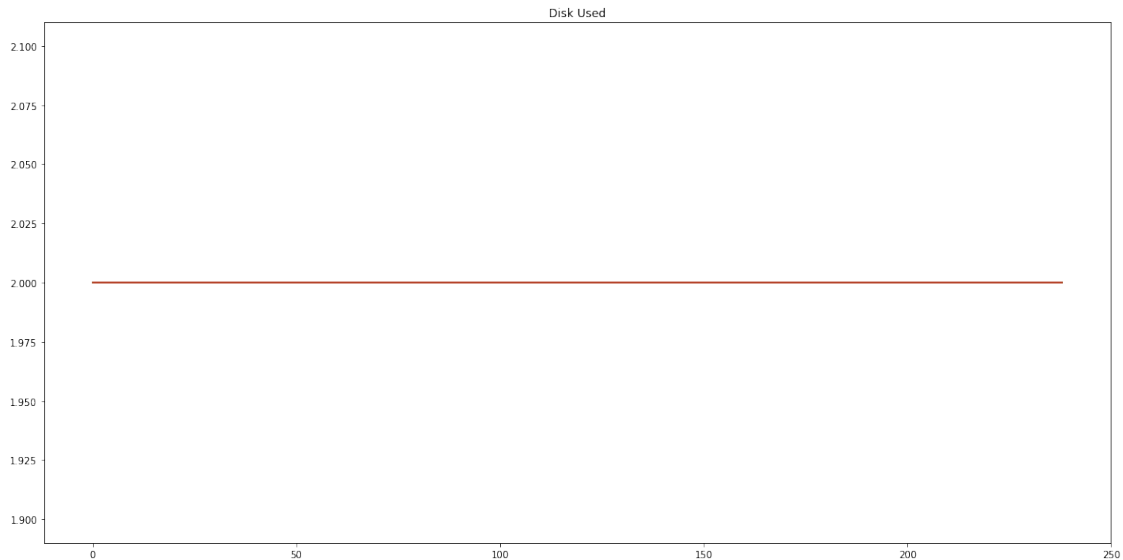
pnt = 6
plt.figure(figsize=(20,10))
plt.plot(data[m[0]+pnt])
plt.plot(data[m[1]+pnt])
plt.plot(data[m[2]+pnt])
plt.plot(data[m[3]+pnt])
plt.title("RAM Used")
plt.show()
```

```

pnt = 9
plt.figure(figsize=(20,10))
plt.plot(data[m[0]+pnt])
plt.plot(data[m[1]+pnt])
plt.plot(data[m[2]+pnt])
plt.plot(data[m[3]+pnt])
plt.title("Disk Used")
plt.show()

```





```
[53]: ### Disk writes would be more useful than disk used
```

3 Explore the pcap

```
[2]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import os

# import pyshark
# cap = pyshark.FileCapture('./12-08-2020/12-08-2020-11-58-14.pcapng')
# dir(cap)

# Export from Wireshark as CSV (easier than dealing with pcap in Python -
↳ although PyShark does work for this)
data = pd.read_csv('./12-08-2020/packet_capture')
data
```

```
[2]:
```

	No.	Time	Src \
0	1	2020-08-10 12:40:52.242486905	fe80::7881:710:8924:9aff
1	2	2020-08-10 12:40:52.242778722	fe80::d53e:7c56:2b34:c0a3
2	3	2020-08-10 12:40:52.243574144	fe80::7881:710:8924:9aff
3	4	2020-08-10 12:40:52.243581308	fe80::7881:710:8924:9aff
4	5	2020-08-10 12:40:52.243582219	fe80::d53e:7c56:2b34:c0a3
5	6	2020-08-10 12:40:52.243583151	fe80::d53e:7c56:2b34:c0a3
6	7	2020-08-10 12:40:52.243757598	fe80::7881:710:8924:9aff

7	8	2020-08-10	12:40:52.246643381	fe80::7032:98e6:daeb:3aaa
8	9	2020-08-10	12:40:52.246717931	fe80::7032:98e6:daeb:3aaa
9	10	2020-08-10	12:40:52.246807559	fe80::7032:98e6:daeb:3aaa
10	11	2020-08-10	12:40:52.246897247	fe80::7032:98e6:daeb:3aaa
11	12	2020-08-10	12:40:54.260031588	fe80::7032:98e6:daeb:3aaa
12	13	2020-08-10	12:40:54.260044903	fe80::7032:98e6:daeb:3aaa
13	14	2020-08-10	12:40:54.261477941	fe80::d53e:7c56:2b34:c0a3
14	15	2020-08-10	12:40:54.261488451	fe80::7881:710:8924:9aff
15	16	2020-08-10	12:40:54.261491166	fe80::7881:710:8924:9aff
16	17	2020-08-10	12:40:54.261566968	fe80::d53e:7c56:2b34:c0a3
17	18	2020-08-10	12:40:54.461045282	fe80::7881:710:8924:9aff
18	19	2020-08-10	12:40:54.461057385	fe80::7032:98e6:daeb:3aaa
19	20	2020-08-10	12:40:54.461058337	fe80::7032:98e6:daeb:3aaa
20	21	2020-08-10	12:40:54.461188391	fe80::d53e:7c56:2b34:c0a3
21	22	2020-08-10	12:40:54.461353841	fe80::7881:710:8924:9aff
22	23	2020-08-10	12:40:54.668484889	fe80::d53e:7c56:2b34:c0a3
23	24	2020-08-10	12:40:54.966183056	fe80::d53e:7c56:2b34:c0a3
24	25	2020-08-10	12:40:54.966559161	fe80::7032:98e6:daeb:3aaa
25	26	2020-08-10	12:40:54.966869964	fe80::d53e:7c56:2b34:c0a3
26	27	2020-08-10	12:40:54.970014261	fe80::7881:710:8924:9aff
27	28	2020-08-10	12:40:54.970120961	fe80::7881:710:8924:9aff
28	29	2020-08-10	12:40:54.970235536	fe80::7881:710:8924:9aff
29	30	2020-08-10	12:40:54.970473082	fe80::7881:710:8924:9aff
...
43296	43297	2020-08-10	13:00:40.117885555	fe80::598e:6b65:251c:8a07
43297	43298	2020-08-10	13:00:40.117896806	192.168.0.10
43298	43299	2020-08-10	13:00:40.117953523	fe80::598e:6b65:251c:8a07
43299	43300	2020-08-10	13:00:40.120425910	fe80::7881:710:8924:9aff
43300	43301	2020-08-10	13:00:40.120439165	192.168.0.13
43301	43302	2020-08-10	13:00:40.233300138	192.168.0.12
43302	43303	2020-08-10	13:00:40.322246116	192.168.0.13
43303	43304	2020-08-10	13:00:40.493998588	NaN
43304	43305	2020-08-10	13:00:40.623295398	NaN
43305	43306	2020-08-10	13:00:40.803094562	NaN
43306	43307	2020-08-10	13:00:40.986418807	192.168.0.12
43307	43308	2020-08-10	13:00:41.071839253	192.168.0.13
43308	43309	2020-08-10	13:00:41.087263052	NaN
43309	43310	2020-08-10	13:00:41.493912690	NaN
43310	43311	2020-08-10	13:00:41.623076802	NaN
43311	43312	2020-08-10	13:00:41.732435055	192.168.0.12
43312	43313	2020-08-10	13:00:41.821820468	192.168.0.13
43313	43314	2020-08-10	13:00:41.881505594	NaN
43314	43315	2020-08-10	13:00:42.090032810	NaN
43315	43316	2020-08-10	13:00:42.491248556	NaN
43316	43317	2020-08-10	13:00:42.494311060	NaN
43317	43318	2020-08-10	13:00:42.572665693	fe80::7032:98e6:daeb:3aaa
43318	43319	2020-08-10	13:00:42.573321633	fe80::d53e:7c56:2b34:c0a3

43319	43320	2020-08-10	13:00:42.573787968	fe80::7032:98e6:daeb:3aaa
43320	43321	2020-08-10	13:00:42.576468816	fe80::7881:710:8924:9aff
43321	43322	2020-08-10	13:00:42.576568924	fe80::7881:710:8924:9aff
43322	43323	2020-08-10	13:00:42.576714006	fe80::7881:710:8924:9aff
43323	43324	2020-08-10	13:00:42.577374465	fe80::7881:710:8924:9aff
43324	43325	2020-08-10	13:00:42.582573196	NaN
43325	43326	2020-08-10	13:00:42.803024918	NaN

	SrcPort	Dest	DestPort	Protocol	Length	\
0	NaN	ff02::1:ff34:c0a3	NaN	ICMPv6	86	
1	NaN	ff02::1:ff24:9aff	NaN	ICMPv6	86	
2	3540.0	fe80::d53e:7c56:2b34:c0a3	3540.0	PNRP	248	
3	NaN	fe80::d53e:7c56:2b34:c0a3	NaN	ICMPv6	86	
4	NaN	fe80::7881:710:8924:9aff	NaN	ICMPv6	86	
5	3540.0	fe80::7881:710:8924:9aff	3540.0	PNRP	156	
6	3540.0	fe80::7032:98e6:daeb:3aaa	3540.0	PNRP	138	
7	3540.0	fe80::7881:710:8924:9aff	3540.0	PNRP	1278	
8	3540.0	fe80::7881:710:8924:9aff	3540.0	PNRP	1278	
9	3540.0	fe80::7881:710:8924:9aff	3540.0	PNRP	1278	
10	3540.0	fe80::7881:710:8924:9aff	3540.0	PNRP	761	
11	3587.0	fe80::d53e:7c56:2b34:c0a3	49208.0	TCP	801	
12	3587.0	fe80::7881:710:8924:9aff	49203.0	TCP	801	
13	3587.0	fe80::7881:710:8924:9aff	49201.0	TCP	801	
14	49201.0	fe80::d53e:7c56:2b34:c0a3	3587.0	TCP	801	
15	49203.0	fe80::7032:98e6:daeb:3aaa	3587.0	TCP	145	
16	49208.0	fe80::7032:98e6:daeb:3aaa	3587.0	TCP	145	
17	49201.0	fe80::d53e:7c56:2b34:c0a3	3587.0	TCP	74	
18	3587.0	fe80::7881:710:8924:9aff	49203.0	TCP	74	
19	3587.0	fe80::d53e:7c56:2b34:c0a3	49208.0	TCP	74	
20	3587.0	fe80::7881:710:8924:9aff	49201.0	TCP	145	
21	49201.0	fe80::d53e:7c56:2b34:c0a3	3587.0	TCP	145	
22	3587.0	fe80::7881:710:8924:9aff	49201.0	TCP	74	
23	3540.0	fe80::7032:98e6:daeb:3aaa	3540.0	PNRP	248	
24	3540.0	fe80::d53e:7c56:2b34:c0a3	3540.0	PNRP	156	
25	3540.0	fe80::7881:710:8924:9aff	3540.0	PNRP	138	
26	3540.0	fe80::d53e:7c56:2b34:c0a3	3540.0	PNRP	1278	
27	3540.0	fe80::d53e:7c56:2b34:c0a3	3540.0	PNRP	1278	
28	3540.0	fe80::d53e:7c56:2b34:c0a3	3540.0	PNRP	1278	
29	3540.0	fe80::d53e:7c56:2b34:c0a3	3540.0	PNRP	761	
...		
43296	1900.0	ff02::c	1900.0	SSDP	569	
43297	1900.0	239.255.255.250	1900.0	SSDP	556	
43298	1900.0	ff02::c	1900.0	SSDP	585	
43299	63527.0	ff02::1:3	5355.0	LLMNR	84	
43300	63993.0	224.0.0.252	5355.0	LLMNR	64	
43301	137.0	192.168.0.255	137.0	NBNS	92	
43302	137.0	192.168.0.255	137.0	NBNS	92	

43303	NaN		NaN	NaN	ARP	60
43304	NaN		NaN	NaN	ARP	60
43305	NaN		NaN	NaN	ARP	60
43306	137.0	192.168.0.255	137.0	137.0	NBNS	92
43307	137.0	192.168.0.255	137.0	137.0	NBNS	92
43308	NaN		NaN	NaN	ARP	60
43309	NaN		NaN	NaN	ARP	60
43310	NaN		NaN	NaN	ARP	60
43311	137.0	192.168.0.255	137.0	137.0	NBNS	92
43312	137.0	192.168.0.255	137.0	137.0	NBNS	92
43313	NaN		NaN	NaN	ARP	60
43314	NaN		NaN	NaN	ARP	60
43315	NaN		NaN	NaN	ARP	60
43316	NaN		NaN	NaN	ARP	60
43317	3540.0	fe80::d53e:7c56:2b34:c0a3	3540.0		PNRP	248
43318	3540.0	fe80::7032:98e6:daeb:3aaa	3540.0		PNRP	156
43319	3540.0	fe80::7881:710:8924:9aff	3540.0		PNRP	138
43320	3540.0	fe80::7032:98e6:daeb:3aaa	3540.0		PNRP	1278
43321	3540.0	fe80::7032:98e6:daeb:3aaa	3540.0		PNRP	1278
43322	3540.0	fe80::7032:98e6:daeb:3aaa	3540.0		PNRP	1278
43323	3540.0	fe80::7032:98e6:daeb:3aaa	3540.0		PNRP	761
43324	NaN		NaN	NaN	ARP	60
43325	NaN		NaN	NaN	ARP	60

	Cum. Bytes		Info \
0	86	Neighbor Solicitation for fe80::d53e:7c56:2b34...	
1	172	Neighbor Solicitation for fe80::7881:710:8924:...	
2	420	PNRP LOOKUP Message	
3	506	Neighbor Advertisement fe80::7881:710:8924:9af...	
4	592	Neighbor Advertisement fe80::d53e:7c56:2b34:c0...	
5	748	PNRP AUTHORITY Message	
6	886	PNRP INQUIRE Message	
7	2164	PNRP AUTHORITY Message [Fragmented message]	
8	3442	PNRP AUTHORITY Message [Fragmented message]	
9	4720	PNRP AUTHORITY Message [Fragmented message]	
10	5481	PNRP AUTHORITY Message	
11	6282	3587 > 49208 [PSH, ACK] Seq=1 Ack=1 Win=253 ...	
12	7083	3587 > 49203 [PSH, ACK] Seq=1 Ack=1 Win=258 ...	
13	7884	3587 > 49201 [PSH, ACK] Seq=1 Ack=1 Win=255 ...	
14	8685	49201 > 3587 [PSH, ACK] Seq=1 Ack=1 Win=256 ...	
15	8830	49203 > 3587 [PSH, ACK] Seq=1 Ack=728 Win=25...	
16	8975	49208 > 3587 [PSH, ACK] Seq=1 Ack=728 Win=25...	
17	9049	49201 > 3587 [ACK] Seq=728 Ack=728 Win=253 L...	
18	9123	3587 > 49203 [ACK] Seq=728 Ack=72 Win=257 Len=0	
19	9197	3587 > 49208 [ACK] Seq=728 Ack=72 Win=258 Len=0	
20	9342	3587 > 49201 [PSH, ACK] Seq=728 Ack=728 Win=...	
21	9487	49201 > 3587 [PSH, ACK] Seq=728 Ack=799 Win=...	

```

22          9561 3587 > 49201 [ACK] Seq=799 Ack=799 Win=258 L...
23          9809                               PNRP LOOKUP Message
24          9965                               PNRP AUTHORITY Message
25         10103                               PNRP INQUIRE Message
26         11381          PNRP AUTHORITY Message [Fragmented message]
27         12659          PNRP AUTHORITY Message [Fragmented message]
28         13937          PNRP AUTHORITY Message [Fragmented message]
29         14698          PNRP AUTHORITY Message
...
43296      44035929                               NOTIFY * HTTP/1.1
43297      44036485                               NOTIFY * HTTP/1.1
43298      44037070                               NOTIFY * HTTP/1.1
43299      44037154          Standard query 0xe7a0 A wpad
43300      44037218          Standard query 0xe7a0 A wpad
43301      44037310          Name query NB WPAD<00>
43302      44037402          Name query NB WPAD<00>
43303      44037462          Who has 192.168.0.1? Tell 192.168.0.13
43304      44037522          Who has 192.168.0.1? Tell 192.168.0.12
43305      44037582          Who has 192.168.0.1? Tell 192.168.0.10
43306      44037674          Name query NB WPAD<00>
43307      44037766          Name query NB WPAD<00>
43308      44037826          Who has 192.168.0.1? Tell 192.168.0.11
43309      44037886          Who has 192.168.0.1? Tell 192.168.0.13
43310      44037946          Who has 192.168.0.1? Tell 192.168.0.12
43311      44038038          Name query NB WPAD<00>
43312      44038130          Name query NB WPAD<00>
43313      44038190          Who has 192.168.0.1? Tell 192.168.0.10
43314      44038250          Who has 192.168.0.1? Tell 192.168.0.11
43315      44038310          Who has 192.168.0.1? Tell 192.168.0.12
43316      44038370          Who has 192.168.0.1? Tell 192.168.0.13
43317      44038618          PNRP LOOKUP Message
43318      44038774          PNRP AUTHORITY Message
43319      44038912          PNRP INQUIRE Message
43320      44040190          PNRP AUTHORITY Message [Fragmented message]
43321      44041468          PNRP AUTHORITY Message [Fragmented message]
43322      44042746          PNRP AUTHORITY Message [Fragmented message]
43323      44043507          PNRP AUTHORITY Message
43324      44043567          Who has 192.168.0.1? Tell 192.168.0.13
43325      44043627          Who has 192.168.0.1? Tell 192.168.0.10

```

	HW Src	HW Dst
0	08:00:27:58:d0:5c	33:33:ff:34:c0:a3
1	08:00:27:c1:8c:de	33:33:ff:24:9a:ff
2	08:00:27:58:d0:5c	08:00:27:c1:8c:de
3	08:00:27:58:d0:5c	08:00:27:c1:8c:de
4	08:00:27:c1:8c:de	08:00:27:58:d0:5c
5	08:00:27:c1:8c:de	08:00:27:58:d0:5c

6	08:00:27:58:d0:5c	08:00:27:ed:bd:35
7	08:00:27:ed:bd:35	08:00:27:58:d0:5c
8	08:00:27:ed:bd:35	08:00:27:58:d0:5c
9	08:00:27:ed:bd:35	08:00:27:58:d0:5c
10	08:00:27:ed:bd:35	08:00:27:58:d0:5c
11	08:00:27:ed:bd:35	08:00:27:c1:8c:de
12	08:00:27:ed:bd:35	08:00:27:58:d0:5c
13	08:00:27:c1:8c:de	08:00:27:58:d0:5c
14	08:00:27:58:d0:5c	08:00:27:c1:8c:de
15	08:00:27:58:d0:5c	08:00:27:ed:bd:35
16	08:00:27:c1:8c:de	08:00:27:ed:bd:35
17	08:00:27:58:d0:5c	08:00:27:c1:8c:de
18	08:00:27:ed:bd:35	08:00:27:58:d0:5c
19	08:00:27:ed:bd:35	08:00:27:c1:8c:de
20	08:00:27:c1:8c:de	08:00:27:58:d0:5c
21	08:00:27:58:d0:5c	08:00:27:c1:8c:de
22	08:00:27:c1:8c:de	08:00:27:58:d0:5c
23	08:00:27:c1:8c:de	08:00:27:ed:bd:35
24	08:00:27:ed:bd:35	08:00:27:c1:8c:de
25	08:00:27:c1:8c:de	08:00:27:58:d0:5c
26	08:00:27:58:d0:5c	08:00:27:c1:8c:de
27	08:00:27:58:d0:5c	08:00:27:c1:8c:de
28	08:00:27:58:d0:5c	08:00:27:c1:8c:de
29	08:00:27:58:d0:5c	08:00:27:c1:8c:de
...
43296	08:00:27:64:bf:ab	33:33:00:00:00:0c
43297	08:00:27:64:bf:ab	01:00:5e:7f:ff:fa
43298	08:00:27:64:bf:ab	33:33:00:00:00:0c
43299	08:00:27:58:d0:5c	33:33:00:01:00:03
43300	08:00:27:58:d0:5c	01:00:5e:00:00:fc
43301	08:00:27:c1:8c:de	ff:ff:ff:ff:ff:ff
43302	08:00:27:58:d0:5c	ff:ff:ff:ff:ff:ff
43303	08:00:27:58:d0:5c	ff:ff:ff:ff:ff:ff
43304	08:00:27:c1:8c:de	ff:ff:ff:ff:ff:ff
43305	08:00:27:64:bf:ab	ff:ff:ff:ff:ff:ff
43306	08:00:27:c1:8c:de	ff:ff:ff:ff:ff:ff
43307	08:00:27:58:d0:5c	ff:ff:ff:ff:ff:ff
43308	08:00:27:ed:bd:35	ff:ff:ff:ff:ff:ff
43309	08:00:27:58:d0:5c	ff:ff:ff:ff:ff:ff
43310	08:00:27:c1:8c:de	ff:ff:ff:ff:ff:ff
43311	08:00:27:c1:8c:de	ff:ff:ff:ff:ff:ff
43312	08:00:27:58:d0:5c	ff:ff:ff:ff:ff:ff
43313	08:00:27:64:bf:ab	ff:ff:ff:ff:ff:ff
43314	08:00:27:ed:bd:35	ff:ff:ff:ff:ff:ff
43315	08:00:27:c1:8c:de	ff:ff:ff:ff:ff:ff
43316	08:00:27:58:d0:5c	ff:ff:ff:ff:ff:ff
43317	08:00:27:ed:bd:35	08:00:27:c1:8c:de

```

43318 08:00:27:c1:8c:de 08:00:27:ed:bd:35
43319 08:00:27:ed:bd:35 08:00:27:58:d0:5c
43320 08:00:27:58:d0:5c 08:00:27:ed:bd:35
43321 08:00:27:58:d0:5c 08:00:27:ed:bd:35
43322 08:00:27:58:d0:5c 08:00:27:ed:bd:35
43323 08:00:27:58:d0:5c 08:00:27:ed:bd:35
43324 08:00:27:58:d0:5c ff:ff:ff:ff:ff:ff
43325 08:00:27:64:bf:ab ff:ff:ff:ff:ff:ff

```

[43326 rows x 12 columns]

```

[3]: SMB_data = data[data['Protocol'] == 'SMB']
      unique_IPs = list(SMB_data['Src'].unique())
      unique_IPs

```

```

[3]: ['192.168.0.10', '192.168.0.11', '192.168.0.12', '192.168.0.13']

```

```

[4]: SMB_data

```

```

[4]:
      No.      Time      Src  SrcPort  \
2471  2472  2020-08-10 12:50:39.085016250  192.168.0.10  49192.0
2472  2473  2020-08-10 12:50:39.085581941  192.168.0.11    445.0
2473  2474  2020-08-10 12:50:39.085587512  192.168.0.10  49192.0
2474  2475  2020-08-10 12:50:39.085830908  192.168.0.11    445.0
2475  2476  2020-08-10 12:50:39.085891592  192.168.0.10  49192.0
2476  2477  2020-08-10 12:50:39.086005877  192.168.0.11    445.0
2478  2479  2020-08-10 12:50:39.086142413  192.168.0.11    445.0
2495  2496  2020-08-10 12:50:39.294363345  192.168.0.10  49194.0
2496  2497  2020-08-10 12:50:39.294931681  192.168.0.12    445.0
2497  2498  2020-08-10 12:50:39.295013203  192.168.0.10  49194.0
2498  2499  2020-08-10 12:50:39.295241271  192.168.0.12    445.0
2499  2500  2020-08-10 12:50:39.295290794  192.168.0.10  49194.0
2500  2501  2020-08-10 12:50:39.295437690  192.168.0.12    445.0
2502  2503  2020-08-10 12:50:39.295559929  192.168.0.12    445.0
2525  2526  2020-08-10 12:50:39.485078292  192.168.0.10  49197.0
2526  2527  2020-08-10 12:50:39.485642430  192.168.0.13    445.0
2527  2528  2020-08-10 12:50:39.486167014  192.168.0.10  49197.0
2528  2529  2020-08-10 12:50:39.486386566  192.168.0.13    445.0
2529  2530  2020-08-10 12:50:39.486456116  192.168.0.10  49197.0
2530  2531  2020-08-10 12:50:39.486605867  192.168.0.13    445.0
2532  2533  2020-08-10 12:50:39.486766108  192.168.0.13    445.0
2630  2631  2020-08-10 12:50:42.088017650  192.168.0.10  49223.0
2631  2632  2020-08-10 12:50:42.088158995  192.168.0.11    445.0
2632  2633  2020-08-10 12:50:42.088274171  192.168.0.10  49223.0
2633  2634  2020-08-10 12:50:42.088378476  192.168.0.11    445.0
2634  2635  2020-08-10 12:50:42.088568242  192.168.0.10  49223.0
2635  2636  2020-08-10 12:50:42.088677848  192.168.0.11    445.0

```

2636	2637	2020-08-10	12:50:42.088744292	192.168.0.10	49223.0
2637	2638	2020-08-10	12:50:42.088842206	192.168.0.11	445.0
2665	2666	2020-08-10	12:50:42.131842238	192.168.0.10	49226.0
...
37998	37999	2020-08-10	12:52:45.511476450	192.168.0.11	445.0
37999	38000	2020-08-10	12:52:45.511628556	192.168.0.13	49690.0
38001	38002	2020-08-10	12:52:45.511712874	192.168.0.11	445.0
38002	38003	2020-08-10	12:52:45.511865320	192.168.0.13	49690.0
38004	38005	2020-08-10	12:52:45.511947404	192.168.0.11	445.0
38005	38006	2020-08-10	12:52:45.512090312	192.168.0.13	49690.0
38007	38008	2020-08-10	12:52:45.512162367	192.168.0.11	445.0
38008	38009	2020-08-10	12:52:45.512324421	192.168.0.13	49690.0
38010	38011	2020-08-10	12:52:45.512381849	192.168.0.11	445.0
38011	38012	2020-08-10	12:52:45.512514207	192.168.0.13	49690.0
38013	38014	2020-08-10	12:52:45.512608283	192.168.0.11	445.0
38015	38016	2020-08-10	12:52:45.512765188	192.168.0.13	49690.0
38016	38017	2020-08-10	12:52:45.512829568	192.168.0.11	445.0
38017	38018	2020-08-10	12:52:45.512925959	192.168.0.13	49690.0
38019	38020	2020-08-10	12:52:45.513232023	192.168.0.11	445.0
38021	38022	2020-08-10	12:52:45.513250027	192.168.0.13	49690.0
38022	38023	2020-08-10	12:52:45.517736151	192.168.0.11	445.0
38054	38055	2020-08-10	12:52:45.637001837	192.168.0.10	53331.0
38074	38075	2020-08-10	12:52:45.657284570	192.168.0.10	53333.0
38075	38076	2020-08-10	12:52:45.657661677	192.168.0.11	139.0
38076	38077	2020-08-10	12:52:45.658106832	192.168.0.10	53333.0
38077	38078	2020-08-10	12:52:45.658309252	192.168.0.11	139.0
38078	38079	2020-08-10	12:52:45.658500451	192.168.0.10	53333.0
38079	38080	2020-08-10	12:52:45.658806835	192.168.0.11	139.0
38080	38081	2020-08-10	12:52:45.659014895	192.168.0.10	53333.0
38081	38082	2020-08-10	12:52:45.659126465	192.168.0.11	139.0
38837	38838	2020-08-10	12:53:00.274750041	192.168.0.10	53333.0
38840	38841	2020-08-10	12:53:00.274978881	192.168.0.11	139.0
38842	38843	2020-08-10	12:53:00.275596579	192.168.0.10	53333.0
38843	38844	2020-08-10	12:53:00.275830859	192.168.0.11	139.0

	Dest	DestPort	Protocol	Length	Cum. Bytes	\
2471	192.168.0.11	445.0	SMB	142	1068983	
2472	192.168.0.10	49192.0	SMB	185	1069168	
2473	192.168.0.11	445.0	SMB	157	1069325	
2474	192.168.0.10	49192.0	SMB	179	1069504	
2475	192.168.0.11	445.0	SMB	149	1069653	
2476	192.168.0.10	49192.0	SMB	104	1069757	
2478	192.168.0.10	49192.0	SMB	93	1069982	
2495	192.168.0.12	445.0	SMB	142	1071108	
2496	192.168.0.10	49194.0	SMB	185	1071293	
2497	192.168.0.12	445.0	SMB	157	1071450	
2498	192.168.0.10	49194.0	SMB	179	1071629	

2499	192.168.0.12	445.0	SMB	149	1071778
2500	192.168.0.10	49194.0	SMB	104	1071882
2502	192.168.0.10	49194.0	SMB	93	1072107
2525	192.168.0.13	445.0	SMB	142	1073593
2526	192.168.0.10	49197.0	SMB	185	1073778
2527	192.168.0.13	445.0	SMB	157	1073935
2528	192.168.0.10	49197.0	SMB	179	1074114
2529	192.168.0.13	445.0	SMB	149	1074263
2530	192.168.0.10	49197.0	SMB	104	1074367
2532	192.168.0.10	49197.0	SMB	93	1074592
2630	192.168.0.11	445.0	SMB	191	1094344
2631	192.168.0.10	49223.0	SMB	173	1094517
2632	192.168.0.11	445.0	SMB	194	1094711
2633	192.168.0.10	49223.0	SMB	259	1094970
2634	192.168.0.11	445.0	SMB	150	1095120
2635	192.168.0.10	49223.0	SMB	114	1095234
2636	192.168.0.11	445.0	SMB	136	1095370
2637	192.168.0.10	49223.0	SMB	93	1095463
2665	192.168.0.11	139.0	SMB	213	1110014
...
37998	192.168.0.13	49690.0	SMB	93	43117641
37999	192.168.0.11	445.0	SMB	4232	43121873
38001	192.168.0.13	49690.0	SMB	93	43122026
38002	192.168.0.11	445.0	SMB	4232	43126258
38004	192.168.0.13	49690.0	SMB	93	43126411
38005	192.168.0.11	445.0	SMB	4232	43130643
38007	192.168.0.13	49690.0	SMB	93	43130796
38008	192.168.0.11	445.0	SMB	4232	43135028
38010	192.168.0.13	49690.0	SMB	93	43135181
38011	192.168.0.11	445.0	SMB	4232	43139413
38013	192.168.0.13	49690.0	SMB	93	43139566
38015	192.168.0.11	445.0	SMB	4232	43143858
38016	192.168.0.13	49690.0	SMB	93	43143951
38017	192.168.0.11	445.0	SMB	4232	43148183
38019	192.168.0.13	49690.0	SMB	93	43148336
38021	192.168.0.11	445.0	SMB	4232	43152628
38022	192.168.0.13	49690.0	SMB	93	43152721
38054	192.168.0.11	139.0	SMB	213	43155648
38074	192.168.0.11	139.0	SMB	191	43158655
38075	192.168.0.10	53333.0	SMB	185	43158840
38076	192.168.0.11	139.0	SMB	196	43159036
38077	192.168.0.10	53333.0	SMB	440	43159476
38078	192.168.0.11	139.0	SMB	278	43159754
38079	192.168.0.10	53333.0	SMB	270	43160024
38080	192.168.0.11	139.0	SMB	140	43160164
38081	192.168.0.10	53333.0	SMB	114	43160278
38837	192.168.0.11	139.0	SMB	93	43264800

38840	192.168.0.10	53333.0	SMB	93	43265013
38842	192.168.0.11	139.0	SMB	97	43265170
38843	192.168.0.10	53333.0	SMB	97	43265267

			Info	HW Src	\
2471			Negotiate Protocol Request	08:00:27:64:bf:ab	
2472			Negotiate Protocol Response	08:00:27:ed:bd:35	
2473			Session Setup AndX Request, User: .\\	08:00:27:64:bf:ab	
2474			Session Setup AndX Response	08:00:27:ed:bd:35	
2475	Tree Connect AndX Request, Path: \\192.168.0...			08:00:27:64:bf:ab	
2476			Tree Connect AndX Response	08:00:27:ed:bd:35	
2478	Trans Response, Error: STATUS_INSUFF_SERVER_RE...			08:00:27:ed:bd:35	
2495			Negotiate Protocol Request	08:00:27:64:bf:ab	
2496			Negotiate Protocol Response	08:00:27:c1:8c:de	
2497			Session Setup AndX Request, User: .\\	08:00:27:64:bf:ab	
2498			Session Setup AndX Response	08:00:27:c1:8c:de	
2499	Tree Connect AndX Request, Path: \\192.168.0...			08:00:27:64:bf:ab	
2500			Tree Connect AndX Response	08:00:27:c1:8c:de	
2502	Trans Response, Error: STATUS_INSUFF_SERVER_RE...			08:00:27:c1:8c:de	
2525			Negotiate Protocol Request	08:00:27:64:bf:ab	
2526			Negotiate Protocol Response	08:00:27:58:d0:5c	
2527			Session Setup AndX Request, User: .\\	08:00:27:64:bf:ab	
2528			Session Setup AndX Response	08:00:27:58:d0:5c	
2529	Tree Connect AndX Request, Path: \\192.168.0...			08:00:27:64:bf:ab	
2530			Tree Connect AndX Response	08:00:27:58:d0:5c	
2532	Trans Response, Error: STATUS_INSUFF_SERVER_RE...			08:00:27:58:d0:5c	
2630			Negotiate Protocol Request	08:00:27:64:bf:ab	
2631			Negotiate Protocol Response	08:00:27:ed:bd:35	
2632			Session Setup AndX Request, User: anonymous	08:00:27:64:bf:ab	
2633			Session Setup AndX Response	08:00:27:ed:bd:35	
2634	Tree Connect AndX Request, Path: \\192.168.5...			08:00:27:64:bf:ab	
2635			Tree Connect AndX Response	08:00:27:ed:bd:35	
2636			Trans2 Request, SESSION_SETUP	08:00:27:64:bf:ab	
2637	Trans2 Response, SESSION_SETUP, Error: STATUS_...			08:00:27:ed:bd:35	
2665			Negotiate Protocol Request	08:00:27:64:bf:ab	
...			
37998	Trans2 Response<unknown>, Error: STATUS_NOT_IM...			08:00:27:ed:bd:35	
37999			Trans2 Request, SESSION_SETUP	08:00:27:58:d0:5c	
38001	Trans2 Response<unknown>, Error: STATUS_NOT_IM...			08:00:27:ed:bd:35	
38002			Trans2 Request, SESSION_SETUP	08:00:27:58:d0:5c	
38004	Trans2 Response<unknown>, Error: STATUS_NOT_IM...			08:00:27:ed:bd:35	
38005			Trans2 Request, SESSION_SETUP	08:00:27:58:d0:5c	
38007	Trans2 Response<unknown>, Error: STATUS_NOT_IM...			08:00:27:ed:bd:35	
38008			Trans2 Request, SESSION_SETUP	08:00:27:58:d0:5c	
38010	Trans2 Response<unknown>, Error: STATUS_NOT_IM...			08:00:27:ed:bd:35	
38011			Trans2 Request, SESSION_SETUP	08:00:27:58:d0:5c	
38013	Trans2 Response<unknown>, Error: STATUS_NOT_IM...			08:00:27:ed:bd:35	

38015 [TCP Spurious Retransmission] Trans2 Request, ... 08:00:27:58:d0:5c
 38016 Trans2 Response<unknown>, Error: STATUS_NOT_IM... 08:00:27:ed:bd:35
 38017 Trans2 Request, SESSION_SETUP 08:00:27:58:d0:5c
 38019 Trans2 Response<unknown>, Error: STATUS_NOT_IM... 08:00:27:ed:bd:35
 38021 [TCP Spurious Retransmission] Trans2 Request, ... 08:00:27:58:d0:5c
 38022 Trans2 Response<unknown>, Error: STATUS_NOT_IM... 08:00:27:ed:bd:35
 38054 Negotiate Protocol Request 08:00:27:64:bf:ab
 38074 Negotiate Protocol Request 08:00:27:64:bf:ab
 38075 Negotiate Protocol Response 08:00:27:ed:bd:35
 38076 Session Setup AndX Request, NTLMSSP_NEGOTIATE 08:00:27:64:bf:ab
 38077 Session Setup AndX Response, NTLMSSP_CHALLENGE... 08:00:27:ed:bd:35
 38078 Session Setup AndX Request, NTLMSSP_AUTH, User... 08:00:27:64:bf:ab
 38079 Session Setup AndX Response 08:00:27:ed:bd:35
 38080 Tree Connect AndX Request, Path: \\\\NODE2-PC\... 08:00:27:64:bf:ab
 38081 Tree Connect AndX Response 08:00:27:ed:bd:35
 38837 Tree Disconnect Request 08:00:27:64:bf:ab
 38840 Tree Disconnect Response 08:00:27:ed:bd:35
 38842 Logoff AndX Request 08:00:27:64:bf:ab
 38843 Logoff AndX Response 08:00:27:ed:bd:35

HW Dst

2471 08:00:27:ed:bd:35
 2472 08:00:27:64:bf:ab
 2473 08:00:27:ed:bd:35
 2474 08:00:27:64:bf:ab
 2475 08:00:27:ed:bd:35
 2476 08:00:27:64:bf:ab
 2478 08:00:27:64:bf:ab
 2495 08:00:27:c1:8c:de
 2496 08:00:27:64:bf:ab
 2497 08:00:27:c1:8c:de
 2498 08:00:27:64:bf:ab
 2499 08:00:27:c1:8c:de
 2500 08:00:27:64:bf:ab
 2502 08:00:27:64:bf:ab
 2525 08:00:27:58:d0:5c
 2526 08:00:27:64:bf:ab
 2527 08:00:27:58:d0:5c
 2528 08:00:27:64:bf:ab
 2529 08:00:27:58:d0:5c
 2530 08:00:27:64:bf:ab
 2532 08:00:27:64:bf:ab
 2630 08:00:27:ed:bd:35
 2631 08:00:27:64:bf:ab
 2632 08:00:27:ed:bd:35
 2633 08:00:27:64:bf:ab
 2634 08:00:27:ed:bd:35

```

2635  08:00:27:64:bf:ab
2636  08:00:27:ed:bd:35
2637  08:00:27:64:bf:ab
2665  08:00:27:ed:bd:35
...
37998 08:00:27:58:d0:5c
37999 08:00:27:ed:bd:35
38001 08:00:27:58:d0:5c
38002 08:00:27:ed:bd:35
38004 08:00:27:58:d0:5c
38005 08:00:27:ed:bd:35
38007 08:00:27:58:d0:5c
38008 08:00:27:ed:bd:35
38010 08:00:27:58:d0:5c
38011 08:00:27:ed:bd:35
38013 08:00:27:58:d0:5c
38015 08:00:27:ed:bd:35
38016 08:00:27:58:d0:5c
38017 08:00:27:ed:bd:35
38019 08:00:27:58:d0:5c
38021 08:00:27:ed:bd:35
38022 08:00:27:58:d0:5c
38054 08:00:27:ed:bd:35
38074 08:00:27:ed:bd:35
38075 08:00:27:64:bf:ab
38076 08:00:27:ed:bd:35
38077 08:00:27:64:bf:ab
38078 08:00:27:ed:bd:35
38079 08:00:27:64:bf:ab
38080 08:00:27:ed:bd:35
38081 08:00:27:64:bf:ab
38837 08:00:27:ed:bd:35
38840 08:00:27:64:bf:ab
38842 08:00:27:ed:bd:35
38843 08:00:27:64:bf:ab

```

[19085 rows x 12 columns]

```

[50]: pnts_src = []
      pnts_dst = []

      color_set = ['orange', 'blue', 'purple']

      for i in range(SMB_data.shape[0]):
          ddd = SMB_data.iloc[i]
          pnts_src.append([i, unique_IPs.index(ddd['Src']), ddd['Length']])
          pnts_dst.append([i, unique_IPs.index(ddd['Dest']), ddd['Length']])

```

```

    #print (i, ddd['Src'], '-->', ddd['Dest'], ddd['Length'])
    #plt.scatter(i, unique_IPs.index(ddd['Src']), c='g')
    #plt.scatter(i, unique_IPs.index(ddd['Dest']), c='r')
plt.show()

pnts_src = np.array(pnts_src)
pnts_dst = np.array(pnts_dst)
plt.figure(figsize=(100,10))
plt.scatter(pnts_src[:,0], pnts_src[:,1], c='b', s=pnts_src[:,2])
plt.scatter(pnts_dst[:,0], pnts_dst[:,1], c='orange', s=pnts_dst[:,2])
#plt.plot(pnts_src[:,0], pnts_src[:,1], 'b--', pnts_dst[:,0], pnts_dst[:,1],
    ↪alpha=0.5)
plt.plot(pnts_src[:,0], pnts_src[:,1], pnts_dst[:,0], pnts_dst[:,1],
    ↪color='purple', alpha=0.5)
plt.show()

```

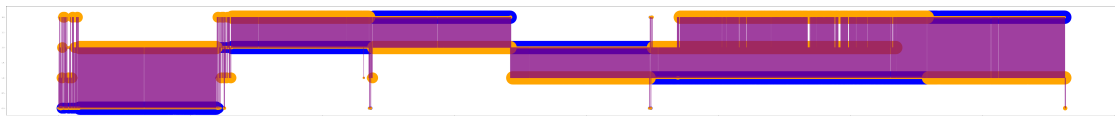


Figure: SMB activity between host nodes

```

[51]: SMB_data = data[data['Protocol'] == 'TCP']
unique_IPs = list(SMB_data['Src'].unique())
unique_IPs

pnts_src = []
pnts_dst = []

color_set = ['orange', 'blue', 'purple']

for i in range(SMB_data.shape[0]):
    ddd = SMB_data.iloc[i]
    pnts_src.append([i, unique_IPs.index(ddd['Src']), ddd['Length']])
    pnts_dst.append([i, unique_IPs.index(ddd['Dest']), ddd['Length']])
    #print (i, ddd['Src'], '-->', ddd['Dest'], ddd['Length'])
    #plt.scatter(i, unique_IPs.index(ddd['Src']), c='g')
    #plt.scatter(i, unique_IPs.index(ddd['Dest']), c='r')
plt.show()

pnts_src = np.array(pnts_src)
pnts_dst = np.array(pnts_dst)
plt.figure(figsize=(100,10))
plt.scatter(pnts_src[:,0], pnts_src[:,1], c='b', s=pnts_src[:,2])
plt.scatter(pnts_dst[:,0], pnts_dst[:,1], c='orange', s=pnts_dst[:,2])

```

```
#plt.plot(pnts_src[:,0], pnts_src[:,1], 'b--', pnts_dst[:,0], pnts_dst[:,1],
→alpha=0.5)
plt.plot(pnts_src[:,0], pnts_src[:,1], pnts_dst[:,0], pnts_dst[:,1],
→color='purple', alpha=0.5)
plt.show()
```

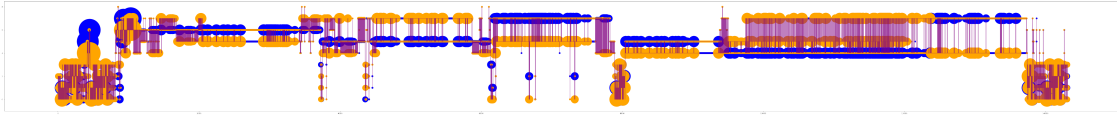


Figure: TCP activity between host nodes

```
[53]: SMB_data = data[data['Protocol'] == 'SSDP']
unique_IPs = list(SMB_data['Src'].unique()) + list(SMB_data['Dest'].unique())
unique_IPs

pnts_src = []
pnts_dst = []

color_set = ['orange', 'blue', 'purple']

for i in range(SMB_data.shape[0]):
    ddd = SMB_data.iloc[i]
    pnts_src.append([i, unique_IPs.index(ddd['Src']), ddd['Length']])
    pnts_dst.append([i, unique_IPs.index(ddd['Dest']), ddd['Length']])
    #print (i, ddd['Src'], '-->', ddd['Dest'], ddd['Length'])
    #plt.scatter(i, unique_IPs.index(ddd['Src']), c='g')
    #plt.scatter(i, unique_IPs.index(ddd['Dest']), c='r')
#plt.show()

pnts_src = np.array(pnts_src)
pnts_dst = np.array(pnts_dst)
plt.figure(figsize=(100,10))
plt.scatter(pnts_src[:,0], pnts_src[:,1], c='b', s=pnts_src[:,2])
plt.scatter(pnts_dst[:,0], pnts_dst[:,1], c='orange', s=pnts_dst[:,2])
#plt.plot(pnts_src[:,0], pnts_src[:,1], 'b--', pnts_dst[:,0], pnts_dst[:,1],
→alpha=0.5)
plt.plot(pnts_src[:,0], pnts_src[:,1], pnts_dst[:,0], pnts_dst[:,1],
→color='purple', alpha=0.5)
plt.show()
```

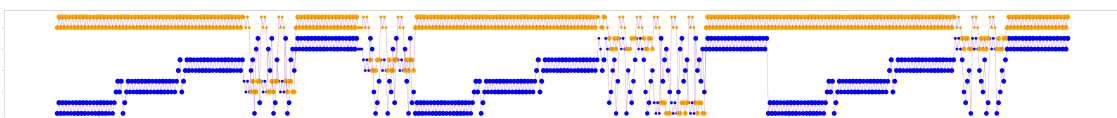


Figure: SSDP Protocol

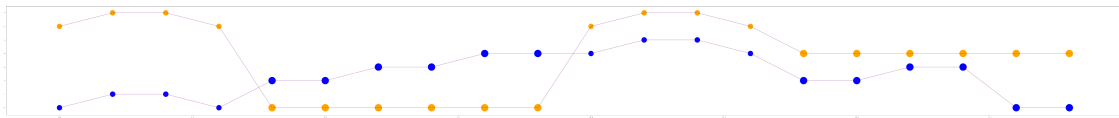
```
[54]: SMB_data = data[data['Protocol'] == 'UDP']
unique_IPs = list(SMB_data['Src'].unique()) + list(SMB_data['Dest'].unique())
unique_IPs

pnts_src = []
pnts_dst = []

color_set = ['orange', 'blue', 'purple']

for i in range(SMB_data.shape[0]):
    ddd = SMB_data.iloc[i]
    pnts_src.append([i, unique_IPs.index(ddd['Src']), ddd['Length']])
    pnts_dst.append([i, unique_IPs.index(ddd['Dest']), ddd['Length']])
    #print (i, ddd['Src'], '-->', ddd['Dest'], ddd['Length'])
    #plt.scatter(i, unique_IPs.index(ddd['Src']), c='g')
    #plt.scatter(i, unique_IPs.index(ddd['Dest']), c='r')
    #plt.show()

pnts_src = np.array(pnts_src)
pnts_dst = np.array(pnts_dst)
plt.figure(figsize=(100,10))
plt.scatter(pnts_src[:,0], pnts_src[:,1], c='b', s=pnts_src[:,2])
plt.scatter(pnts_dst[:,0], pnts_dst[:,1], c='orange', s=pnts_dst[:,2])
#plt.plot(pnts_src[:,0], pnts_src[:,1], 'b--', pnts_dst[:,0], pnts_dst[:,1],
#         alpha=0.5)
plt.plot(pnts_src[:,0], pnts_src[:,1], pnts_dst[:,0], pnts_dst[:,1],
         color='purple', alpha=0.5)
plt.show()
```



```
[60]: SMB_data = data[data['Protocol'] == 'BROWSER']
unique_IPs = list(SMB_data['Src'].unique()) + list(SMB_data['Dest'].unique())
unique_IPs

pnts_src = []
pnts_dst = []
```

```

color_set = ['orange', 'blue', 'purple']

for i in range(SMB_data.shape[0]):
    ddd = SMB_data.iloc[i]
    pnts_src.append([i, unique_IPs.index(ddd['Src']), ddd['Length']])
    pnts_dst.append([i, unique_IPs.index(ddd['Dest']), ddd['Length']])
    #print (i, ddd['Src'], '-->', ddd['Dest'], ddd['Length'])
    #plt.scatter(i, unique_IPs.index(ddd['Src']), c='g')
    #plt.scatter(i, unique_IPs.index(ddd['Dest']), c='r')
#plt.show()

pnts_src = np.array(pnts_src)
pnts_dst = np.array(pnts_dst)
plt.figure(figsize=(100,10))
plt.scatter(pnts_src[:,0], pnts_src[:,1], c='b', s=pnts_src[:,2])
plt.scatter(pnts_dst[:,0], pnts_dst[:,1], c='orange', s=pnts_dst[:,2])
#plt.plot(pnts_src[:,0], pnts_src[:,1], 'b--', pnts_dst[:,0], pnts_dst[:,1],
#         alpha=0.5)
plt.plot(pnts_src[:,0], pnts_src[:,1], pnts_dst[:,0], pnts_dst[:,1],
#         color='purple', alpha=0.5)
plt.show()

```



```
[58]: data['Protocol'].unique()
```

```
[58]: array(['ICMPv6', 'PNRP', 'TCP', 'ARP', 'LLMNR', 'NBNS', 'BROWSER',
          'DHCPv6', 'SSDP', 'MDNS', 'HTTP', 'HTTP/XML', 'UDP', 'SMB',
          'SMB Pipe', 'ICMP', 'NBSS', 'SMB2', 'LANMAN'], dtype=object)
```

```
[61]: SMB_data = data[data['Protocol'] == 'HTTP']
unique_IPs = list(SMB_data['Src'].unique()) + list(SMB_data['Dest'].unique())
unique_IPs

pnts_src = []
pnts_dst = []

color_set = ['orange', 'blue', 'purple']

for i in range(SMB_data.shape[0]):
    ddd = SMB_data.iloc[i]
    pnts_src.append([i, unique_IPs.index(ddd['Src']), ddd['Length']])
    pnts_dst.append([i, unique_IPs.index(ddd['Dest']), ddd['Length']])

```

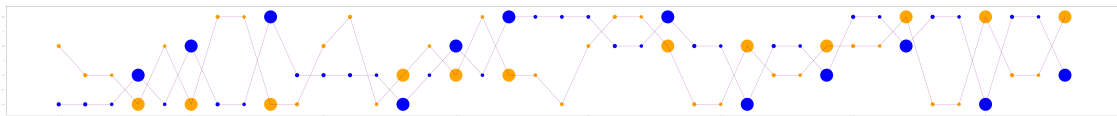


```

    #print (i, ddd['Src'], '-->', ddd['Dest'], ddd['Length'])
    #plt.scatter(i, unique_IPs.index(ddd['Src']), c='g')
    #plt.scatter(i, unique_IPs.index(ddd['Dest']), c='r')
plt.show()

pnts_src = np.array(pnts_src)
pnts_dst = np.array(pnts_dst)
plt.figure(figsize=(100,10))
plt.scatter(pnts_src[:,0], pnts_src[:,1], c='b', s=pnts_src[:,2])
plt.scatter(pnts_dst[:,0], pnts_dst[:,1], c='orange', s=pnts_dst[:,2])
#plt.plot(pnts_src[:,0], pnts_src[:,1], 'b--', pnts_dst[:,0], pnts_dst[:,1],
    ↪alpha=0.5)
plt.plot(pnts_src[:,0], pnts_src[:,1], pnts_dst[:,0], pnts_dst[:,1],
    ↪color='purple', alpha=0.5)
plt.show()

```



```

[62]: SMB_data = data[data['Protocol'] == 'SMB Pipe']
unique_IPs = list(SMB_data['Src'].unique()) + list(SMB_data['Dest'].unique())
unique_IPs

pnts_src = []
pnts_dst = []

color_set = ['orange', 'blue', 'purple']

for i in range(SMB_data.shape[0]):
    ddd = SMB_data.iloc[i]
    pnts_src.append([i, unique_IPs.index(ddd['Src']), ddd['Length']])
    pnts_dst.append([i, unique_IPs.index(ddd['Dest']), ddd['Length']])
    #print (i, ddd['Src'], '-->', ddd['Dest'], ddd['Length'])
    #plt.scatter(i, unique_IPs.index(ddd['Src']), c='g')
    #plt.scatter(i, unique_IPs.index(ddd['Dest']), c='r')
plt.show()

pnts_src = np.array(pnts_src)
pnts_dst = np.array(pnts_dst)
plt.figure(figsize=(100,10))
plt.scatter(pnts_src[:,0], pnts_src[:,1], c='b', s=pnts_src[:,2])
plt.scatter(pnts_dst[:,0], pnts_dst[:,1], c='orange', s=pnts_dst[:,2])

```

```
#plt.plot(pnts_src[:,0], pnts_src[:,1], 'b--', pnts_dst[:,0], pnts_dst[:,1],  
↪alpha=0.5)  
plt.plot(pnts_src[:,0], pnts_src[:,1], pnts_dst[:,0], pnts_dst[:,1],  
↪color='purple', alpha=0.5)  
plt.show()
```



[]: