Статистика работы Wi-Fi сети во время Fortinet Security Day 2019

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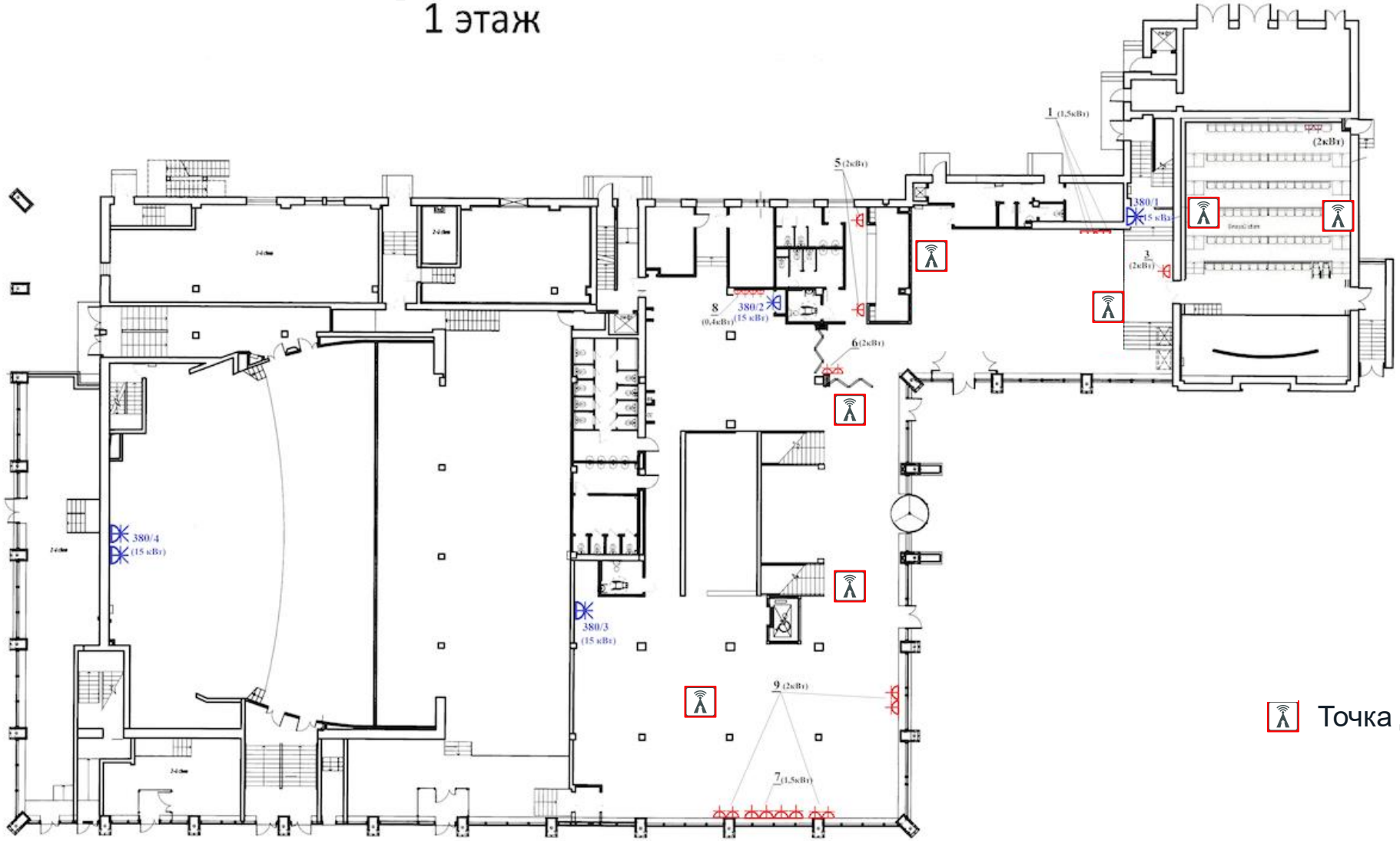
12 сентября 2019

План помещения

1 этаж



Точка доступа Fortinet AP832e

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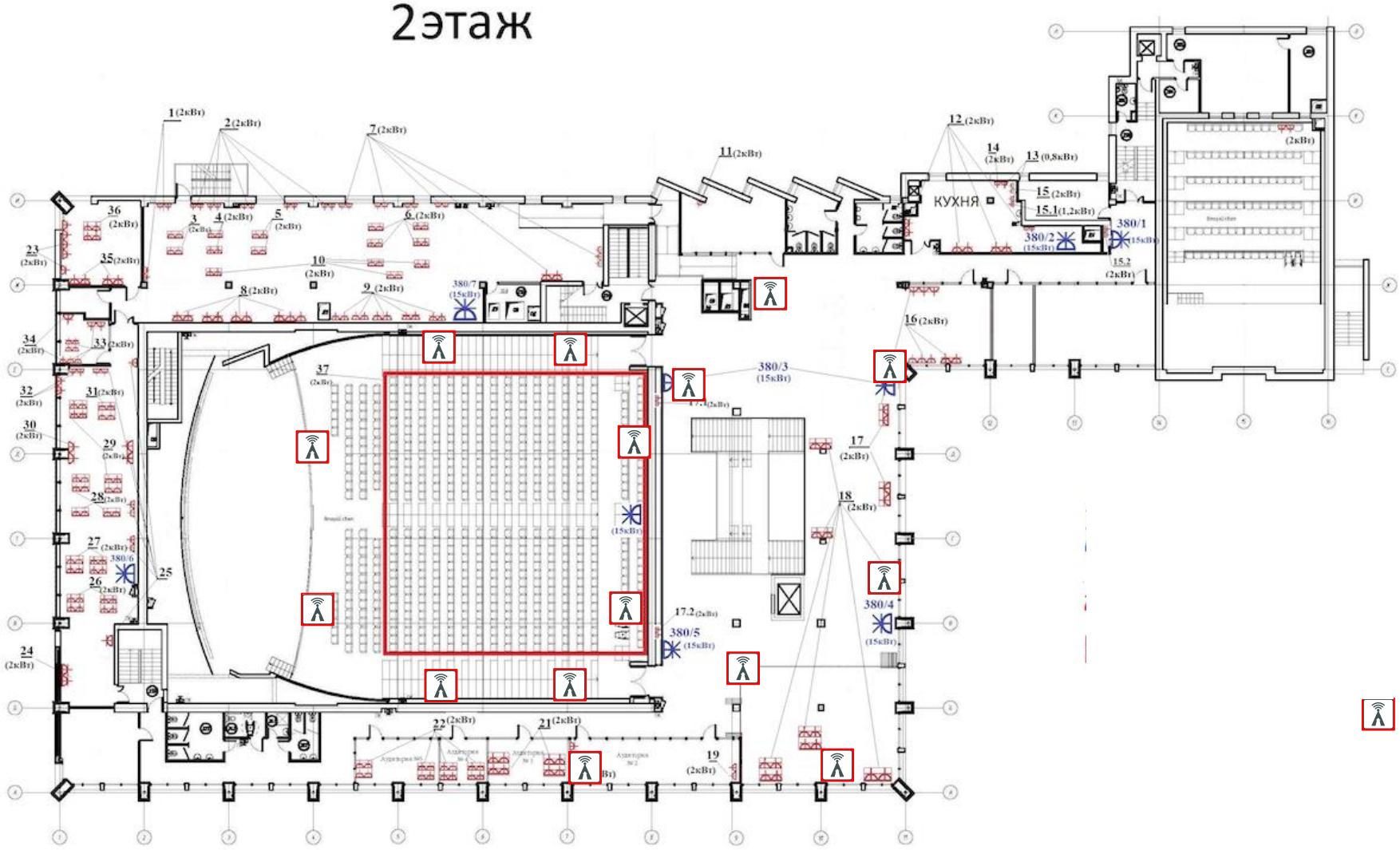
План помещения



Точка доступа Fortinet AP832e

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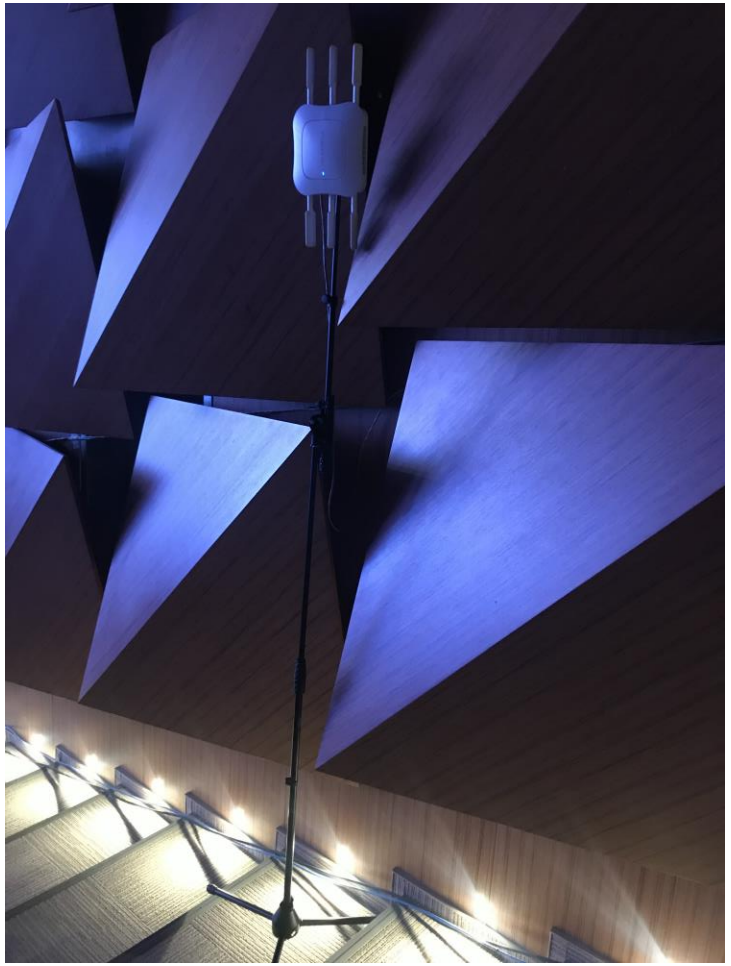
Состав оборудования

- 22 точки доступа (802.11ac, 3x3:3ss) – AP832e
- 3 коммутатора с портами PoE – FS-424D-FPOE
- 1км кабеля UTP
- Аппаратный контроллер FWC-500D
- Система управления – FWM-VM
- Система аналитики – FortiPresence
- Шлюз безопасности FortiGate 300E
- Система сбора логов – FortiAnalyzer



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Статистика и результаты

- Общее число посетителей конференции: более 800 человек
- Было одновременно подключено к сети в среднем 300 клиентов
- Канал доступа в Интернет: 200Мбит/с
- Измерения производительности (клиент iPhone 7, 802.11ac, 2ss) :
  - Download 90Мбит/с,
  - Upload 110Мбит/с
- Частотные каналы, задействованные в рамках БЛВС:
  - 2 канала 5GHz, ширина каждого 40MHz: 44+48, 149+153
  - 2 канала 2.4GHz, ширина каждого 20MHz: 6, 11
- Клиенты распределялись по диапазонам 5/2.4GHz в соотношении 65/35
- Клиенты равномерно распределялись по каналам в рамках одного диапазона
- Качественная работа сервиса у всех абонентов

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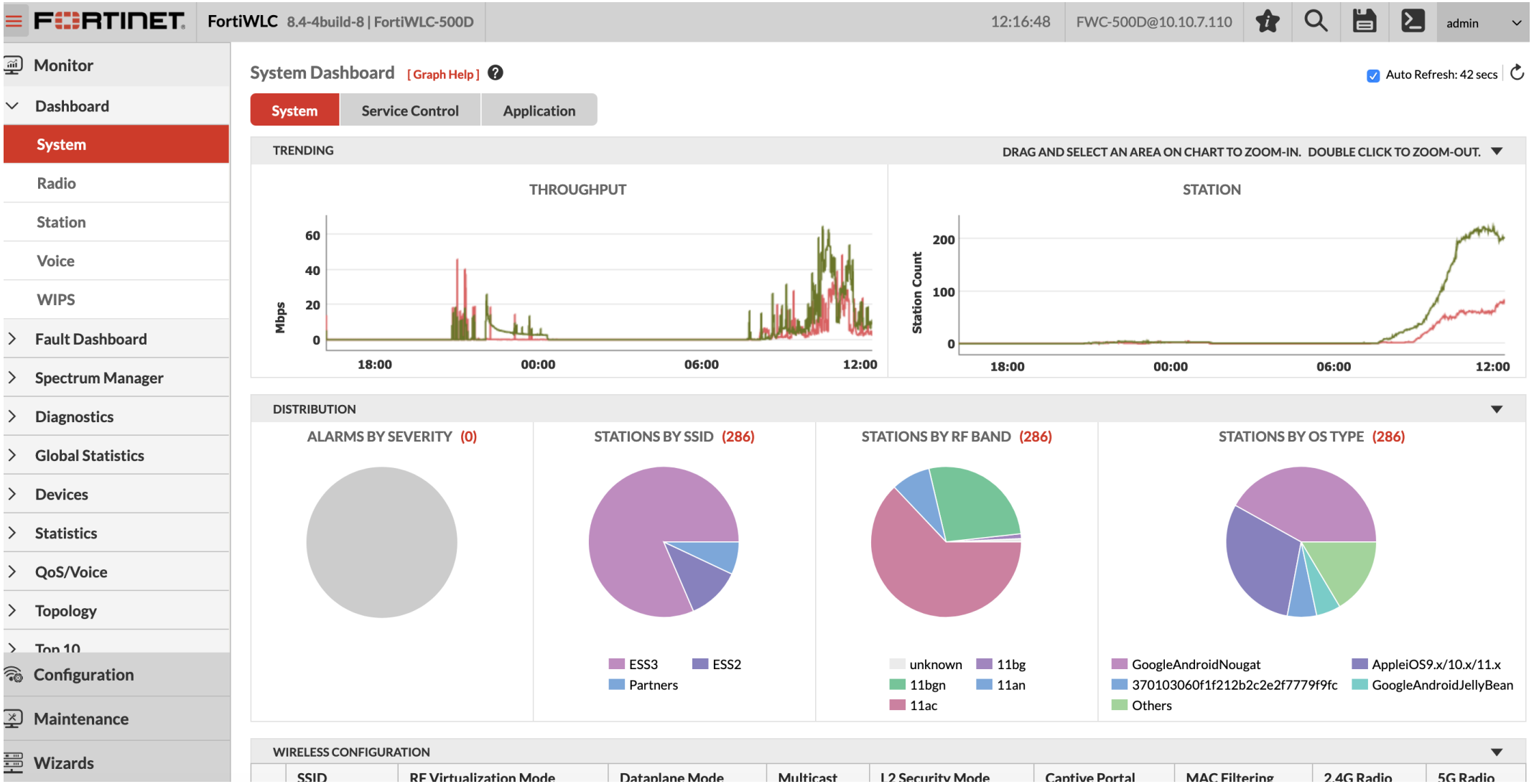

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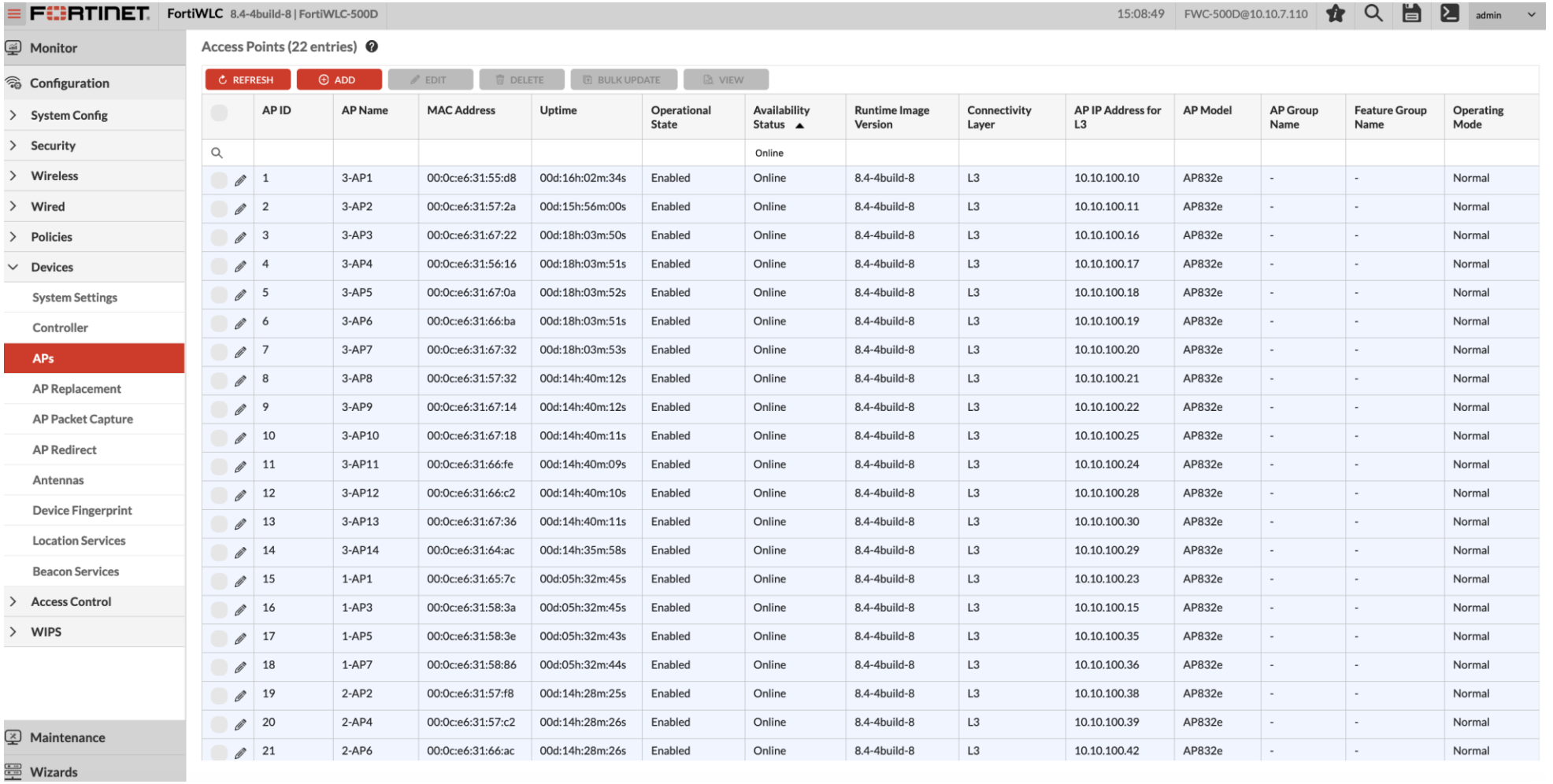

AP ID	AP Name	MAC Address	Uptime	Operational State	Availability Status	Runtime Image Version	Connectivity Layer	AP IP Address for L3	AP Model	AP Group Name	Feature Group Name	Operating Mode
					Online							
1	3-AP1	00:0c:e6:31:55:d8	00d:16h:02m:34s	Enabled	Online	8.4-4build-8	L3	10.10.100.10	AP832e	-	-	Normal
2	3-AP2	00:0c:e6:31:57:2a	00d:15h:56m:00s	Enabled	Online	8.4-4build-8	L3	10.10.100.11	AP832e	-	-	Normal
3	3-AP3	00:0c:e6:31:67:22	00d:18h:03m:50s	Enabled	Online	8.4-4build-8	L3	10.10.100.16	AP832e	-	-	Normal
4	3-AP4	00:0c:e6:31:56:16	00d:18h:03m:51s	Enabled	Online	8.4-4build-8	L3	10.10.100.17	AP832e	-	-	Normal
5	3-AP5	00:0c:e6:31:67:0a	00d:18h:03m:52s	Enabled	Online	8.4-4build-8	L3	10.10.100.18	AP832e	-	-	Normal
6	3-AP6	00:0c:e6:31:66:ba	00d:18h:03m:51s	Enabled	Online	8.4-4build-8	L3	10.10.100.19	AP832e	-	-	Normal
7	3-AP7	00:0c:e6:31:67:32	00d:18h:03m:53s	Enabled	Online	8.4-4build-8	L3	10.10.100.20	AP832e	-	-	Normal
8	3-AP8	00:0c:e6:31:57:32	00d:14h:40m:12s	Enabled	Online	8.4-4build-8	L3	10.10.100.21	AP832e	-	-	Normal
9	3-AP9	00:0c:e6:31:67:14	00d:14h:40m:12s	Enabled	Online	8.4-4build-8	L3	10.10.100.22	AP832e	-	-	Normal
10	3-AP10	00:0c:e6:31:67:18	00d:14h:40m:11s	Enabled	Online	8.4-4build-8	L3	10.10.100.25	AP832e	-	-	Normal
11	3-AP11	00:0c:e6:31:66:fe	00d:14h:40m:09s	Enabled	Online	8.4-4build-8	L3	10.10.100.24	AP832e	-	-	Normal
12	3-AP12	00:0c:e6:31:66:c2	00d:14h:40m:10s	Enabled	Online	8.4-4build-8	L3	10.10.100.28	AP832e	-	-	Normal
13	3-AP13	00:0c:e6:31:67:36	00d:14h:40m:11s	Enabled	Online	8.4-4build-8	L3	10.10.100.30	AP832e	-	-	Normal
14	3-AP14	00:0c:e6:31:64:ac	00d:14h:35m:58s	Enabled	Online	8.4-4build-8	L3	10.10.100.29	AP832e	-	-	Normal
15	1-AP1	00:0c:e6:31:65:7c	00d:05h:32m:45s	Enabled	Online	8.4-4build-8	L3	10.10.100.23	AP832e	-	-	Normal
16	1-AP3	00:0c:e6:31:58:3a	00d:05h:32m:45s	Enabled	Online	8.4-4build-8	L3	10.10.100.15	AP832e	-	-	Normal
17	1-AP5	00:0c:e6:31:58:3e	00d:05h:32m:43s	Enabled	Online	8.4-4build-8	L3	10.10.100.35	AP832e	-	-	Normal
18	1-AP7	00:0c:e6:31:58:86	00d:05h:32m:44s	Enabled	Online	8.4-4build-8	L3	10.10.100.36	AP832e	-	-	Normal
19	2-AP2	00:0c:e6:31:57:f8	00d:14h:28m:25s	Enabled	Online	8.4-4build-8	L3	10.10.100.38	AP832e	-	-	Normal
20	2-AP4	00:0c:e6:31:57:c2	00d:14h:28m:26s	Enabled	Online	8.4-4build-8	L3	10.10.100.39	AP832e	-	-	Normal
21	2-AP6	00:0c:e6:31:66:ac	00d:14h:28m:26s	Enabled	Online	8.4-4build-8	L3	10.10.100.42	AP832e	-	-	Normal

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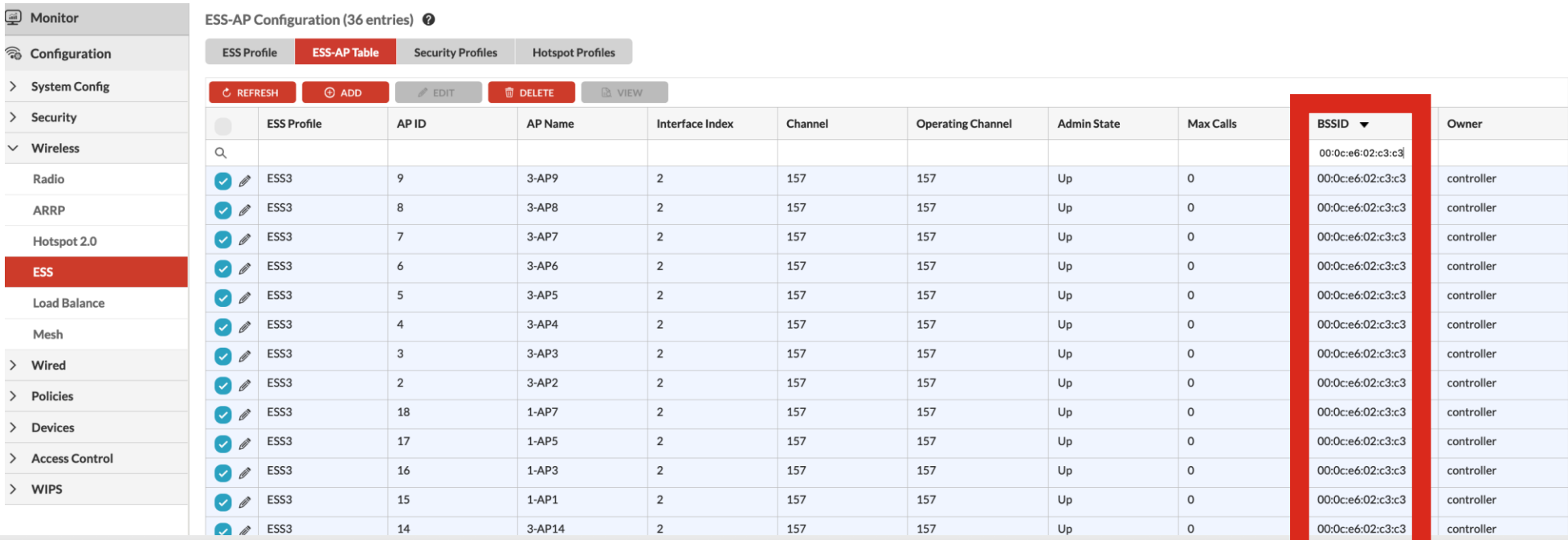
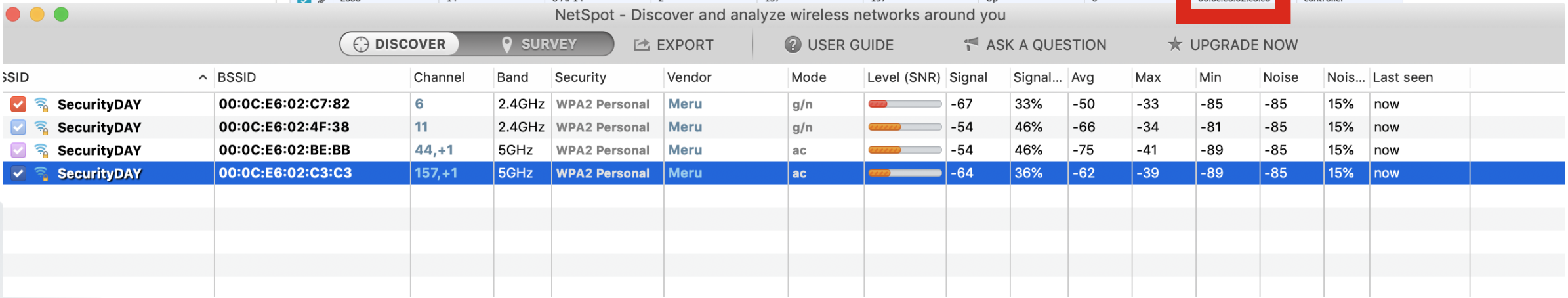


ESS Profile	AP ID	AP Name	Interface Index	Channel	Operating Channel	Admin State	Max Calls	BSSID	Owner
								00:0c:e6:02:c3:c3	
ESS3	9	3-AP9	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller
ESS3	8	3-AP8	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller
ESS3	7	3-AP7	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller
ESS3	6	3-AP6	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller
ESS3	5	3-AP5	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller
ESS3	4	3-AP4	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller
ESS3	3	3-AP3	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller
ESS3	2	3-AP2	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller
ESS3	18	1-AP7	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller
ESS3	17	1-AP5	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller
ESS3	16	1-AP3	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller
ESS3	15	1-AP1	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller
ESS3	14	3-AP14	2	157	157	Up	0	00:0c:e6:02:c3:c3	controller



SSID	BSSID	Channel	Band	Security	Vendor	Mode	Level (SNR)	Signal	Signal...	Avg	Max	Min	Noise	Nois...	Last seen
SecurityDAY	00:0C:E6:02:C7:82	6	2.4GHz	WPA2 Personal	Meru	g/n		-67	33%	-50	-33	-85	-85	15%	now
SecurityDAY	00:0C:E6:02:4F:38	11	2.4GHz	WPA2 Personal	Meru	g/n		-54	46%	-66	-34	-81	-85	15%	now
SecurityDAY	00:0C:E6:02:BE:BB	44,+1	5GHz	WPA2 Personal	Meru	ac		-54	46%	-75	-41	-89	-85	15%	now
SecurityDAY	00:0C:E6:02:C3:C3	157,+1	5GHz	WPA2 Personal	Meru	ac		-64	36%	-62	-39	-89	-85	15%	now

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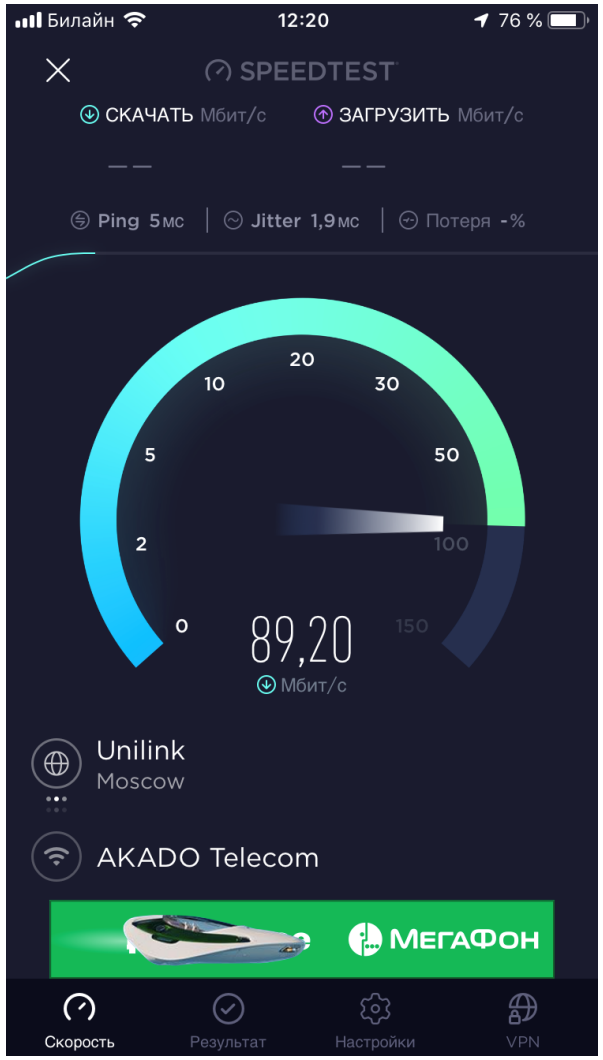

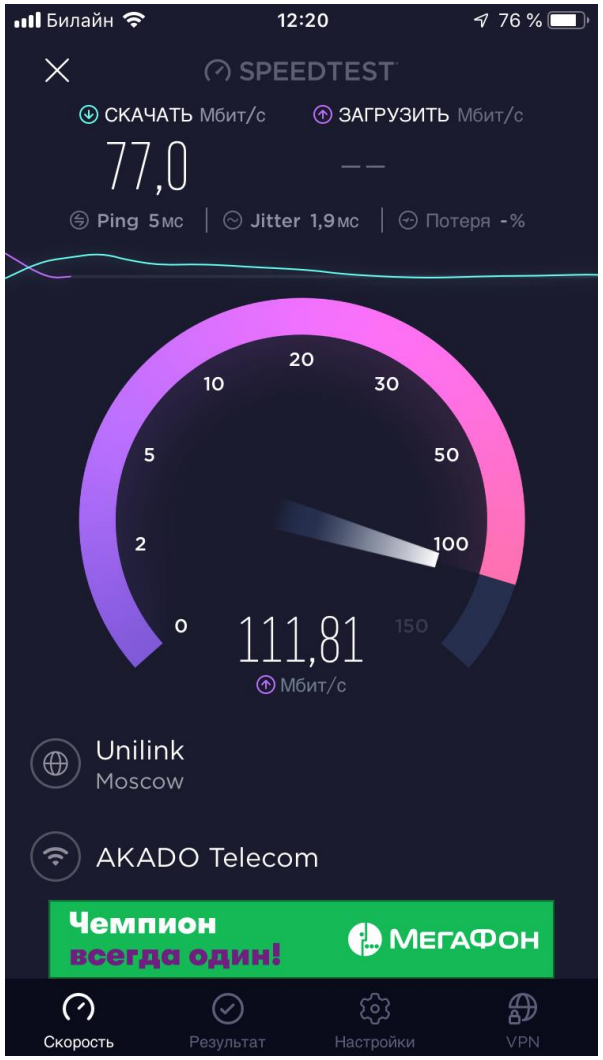

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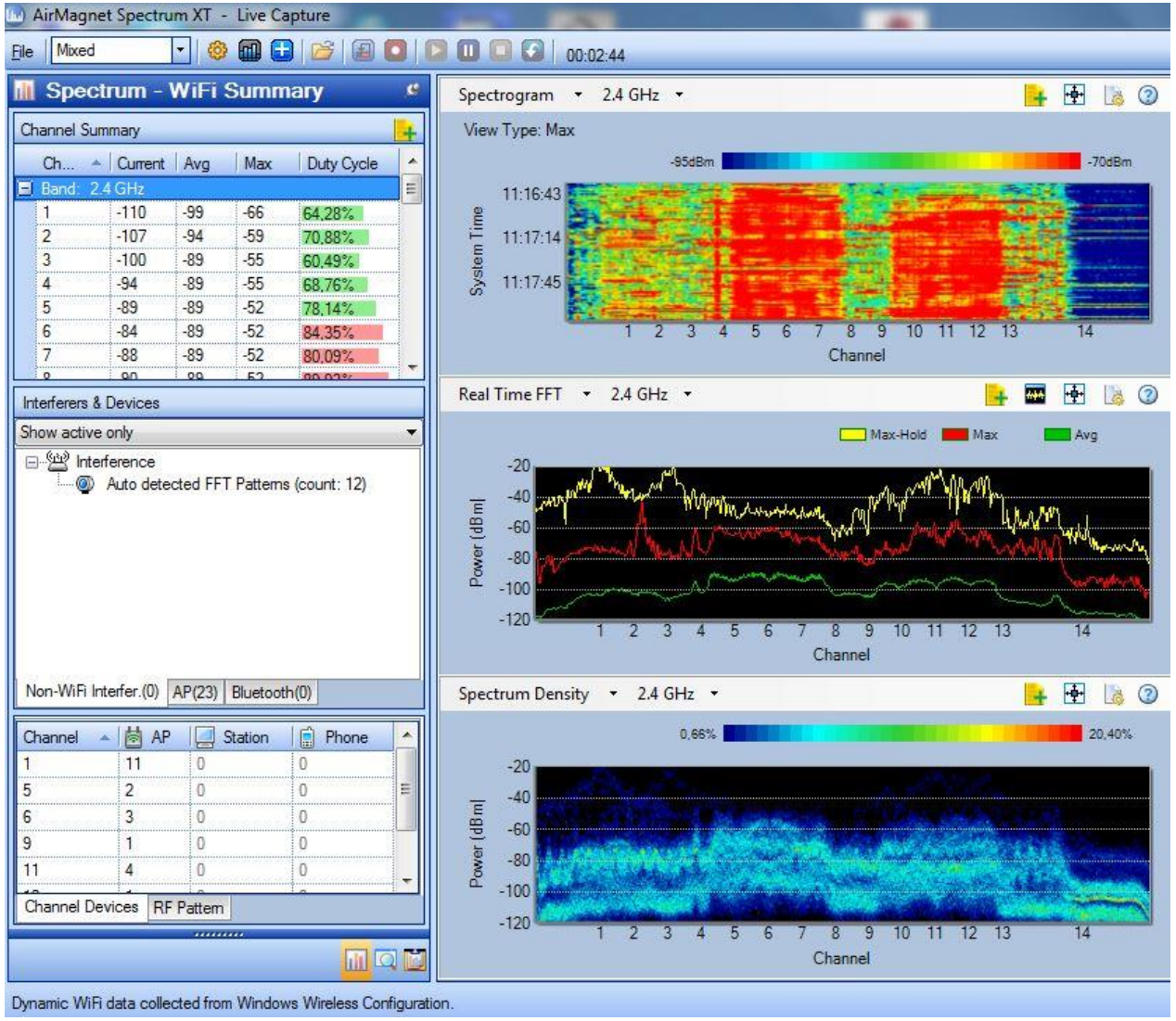
Fortinet Security Day 2019: замеры анализатором спектра (диапазон 2.4ГГц)



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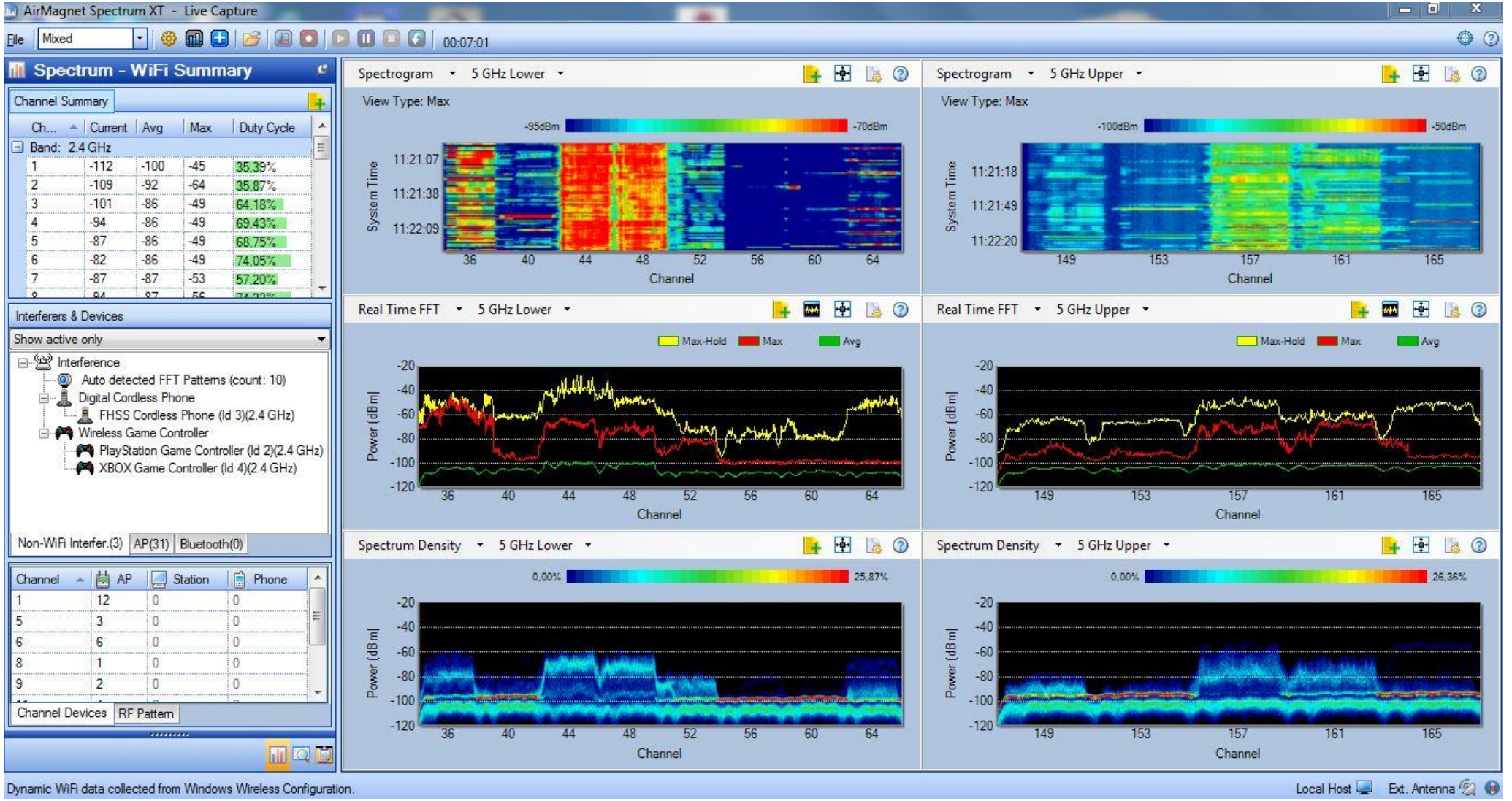
Fortinet Security Day 2019: замеры анализатором спектра (диапазон 5ГГц)



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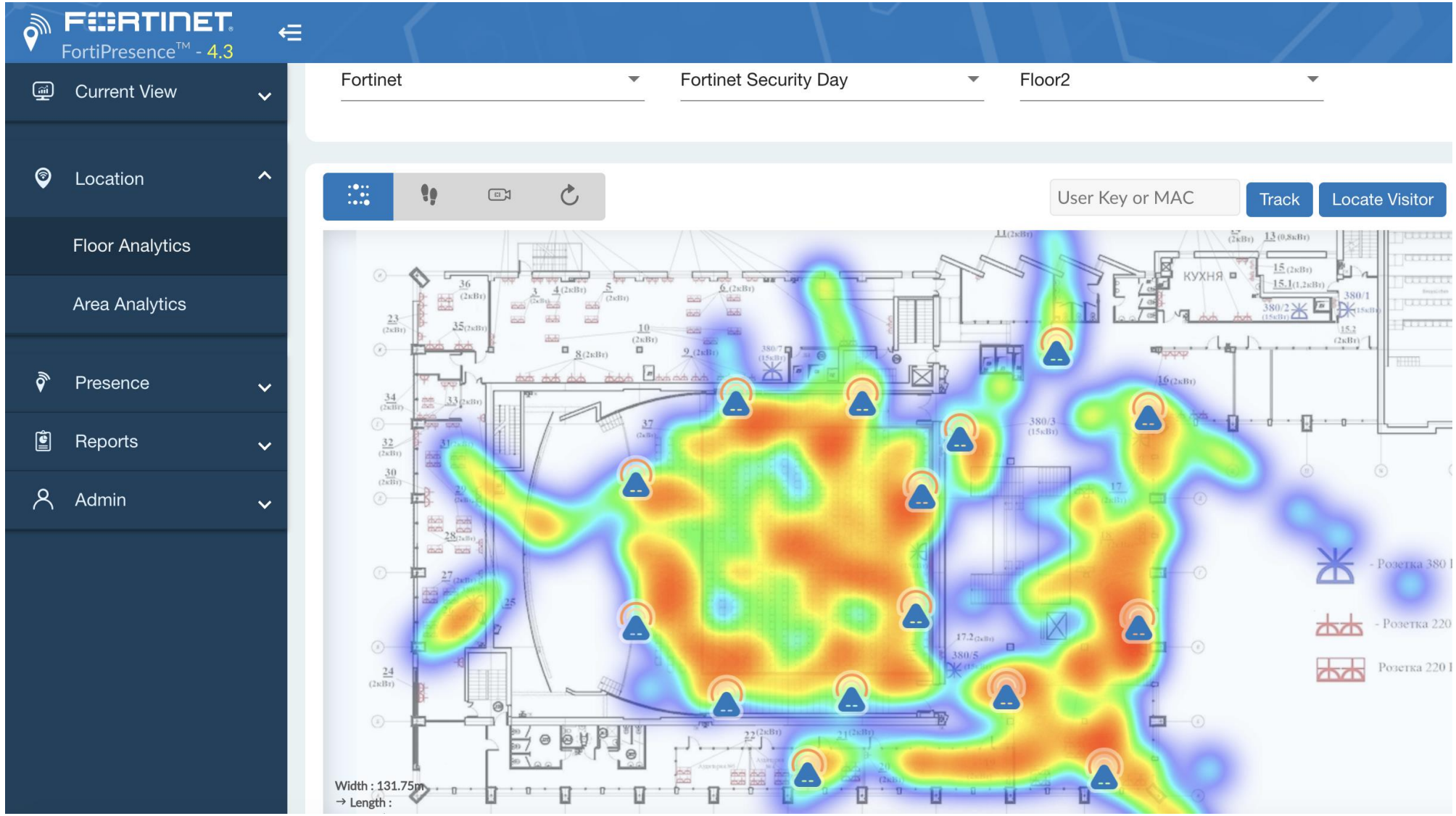
Fortinet Security Day 2019: FortiPresence Heat Maps



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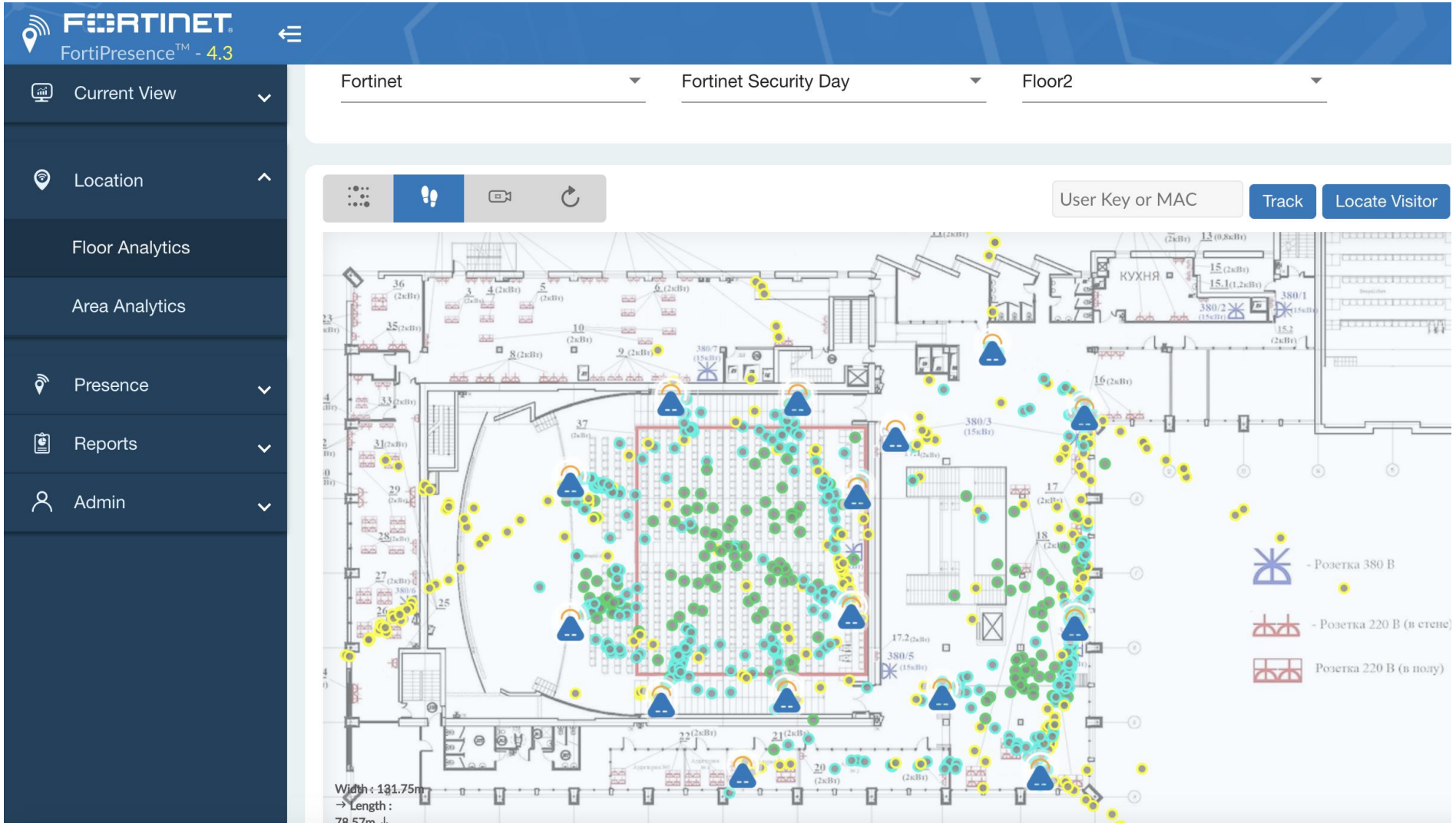
FortiPresence: местоположение клиентов



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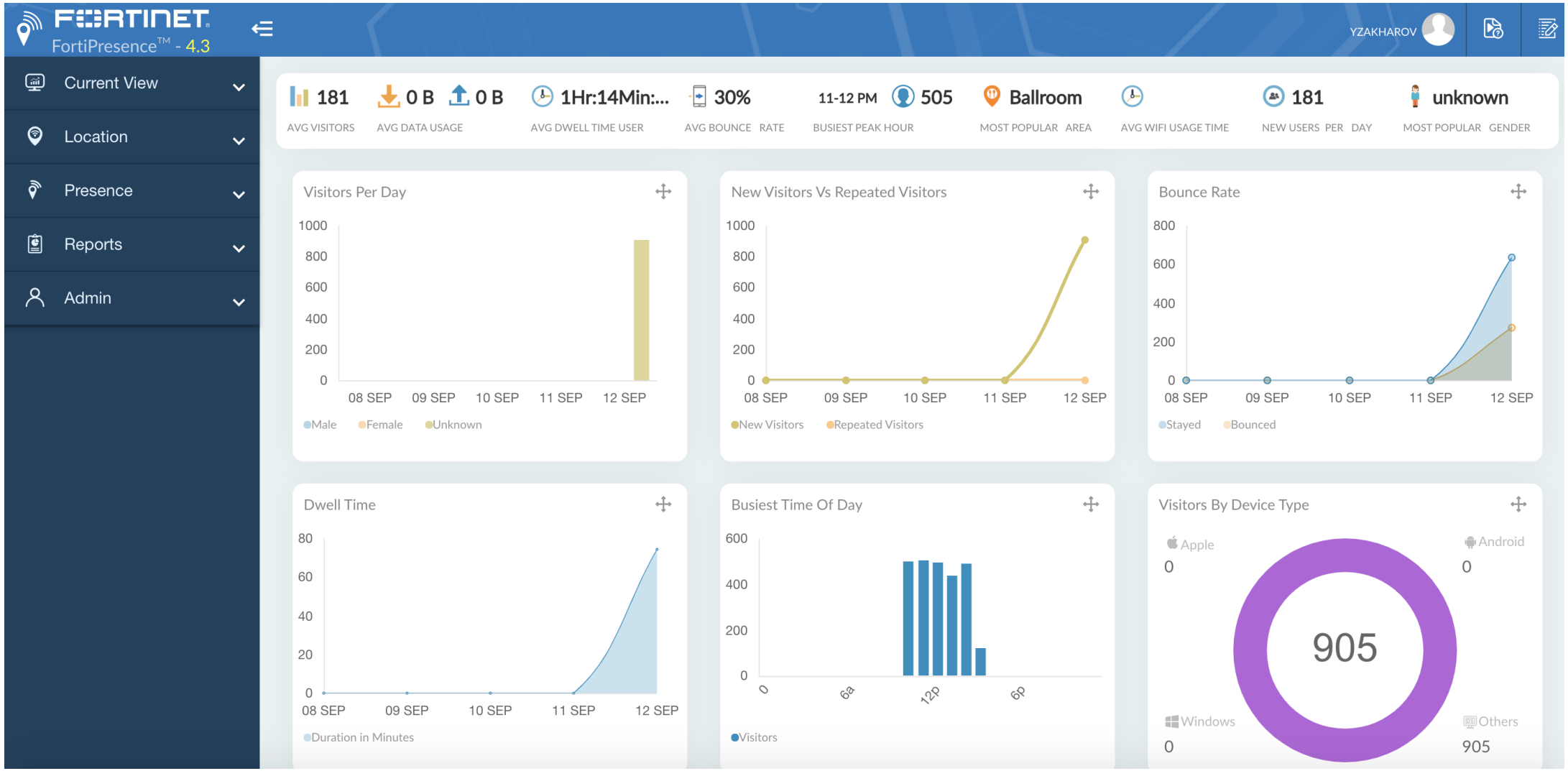
Fortinet Security Day 2019: аналитика FortiPresence



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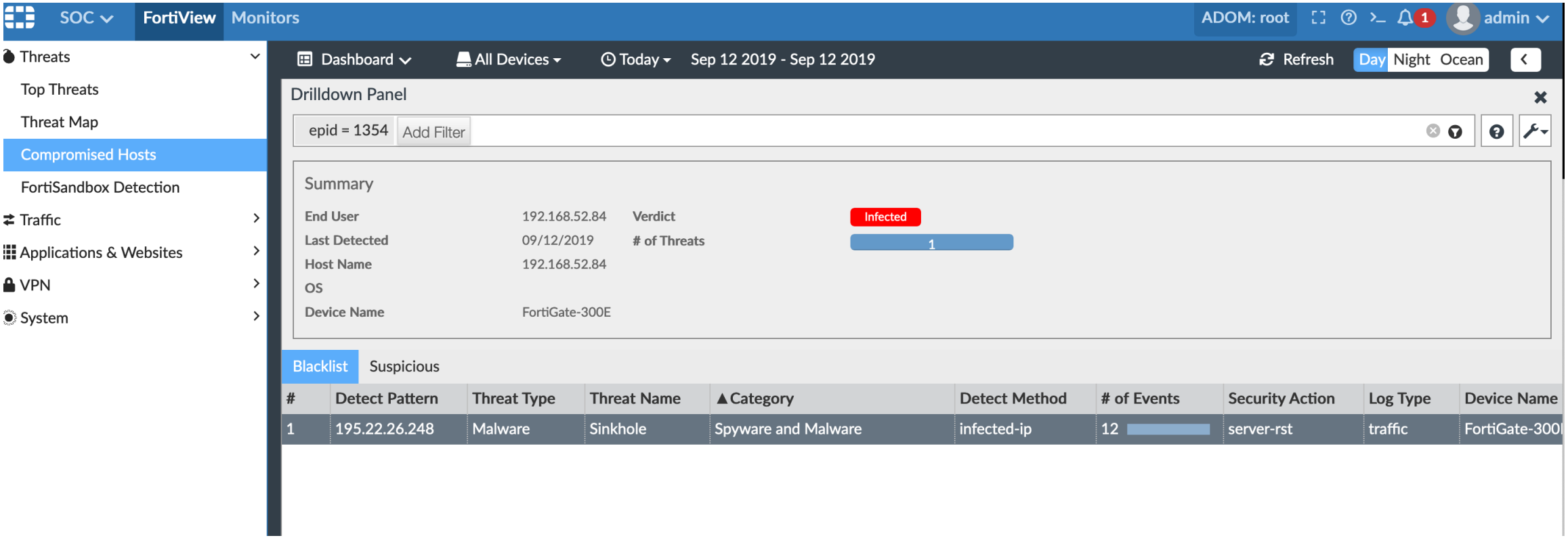
Fortinet Security Day 2019: пример выявленной угрозы



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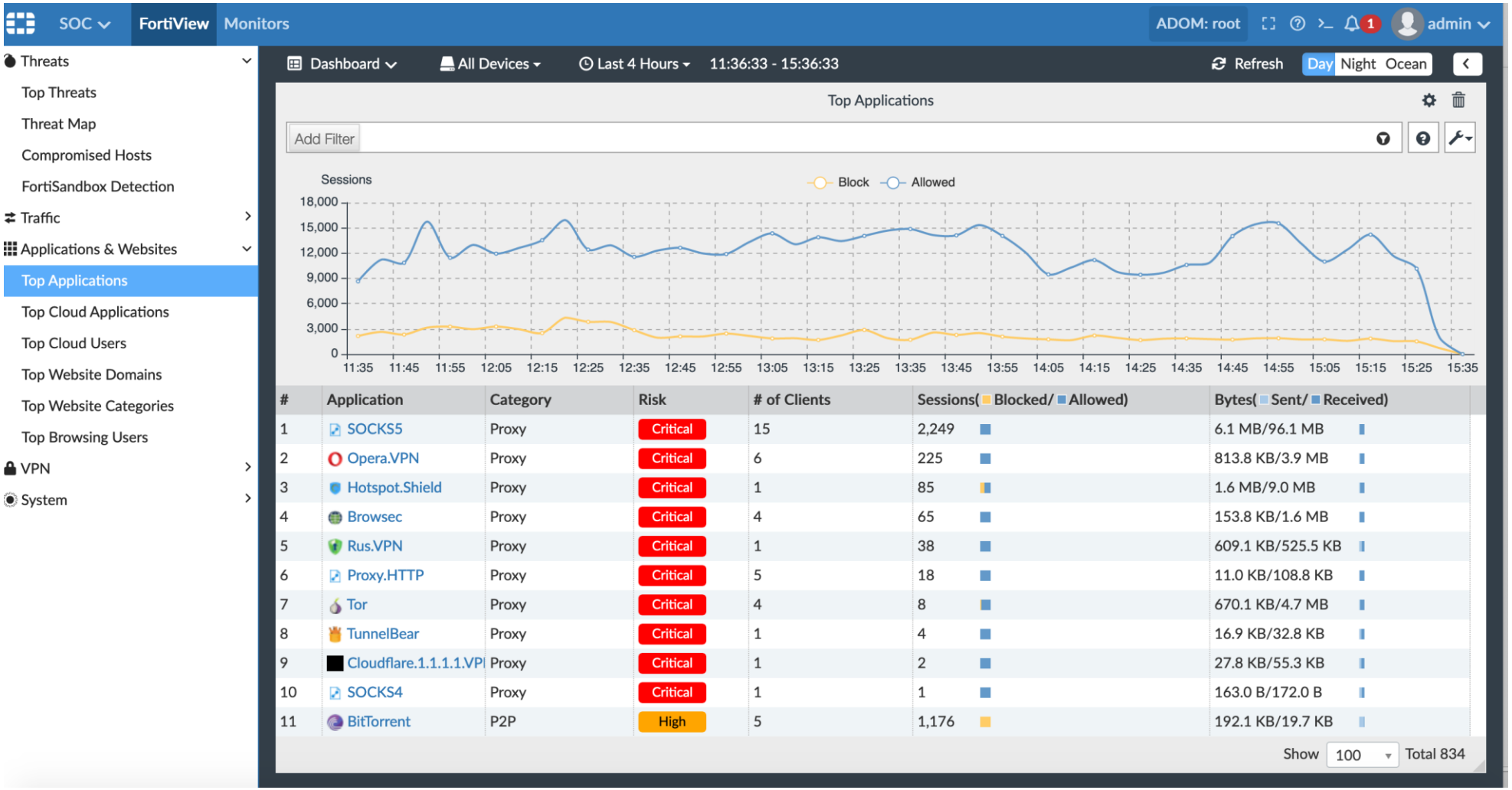
Fortinet Security Day 2019: приложения (в том числе потенциально опасные)



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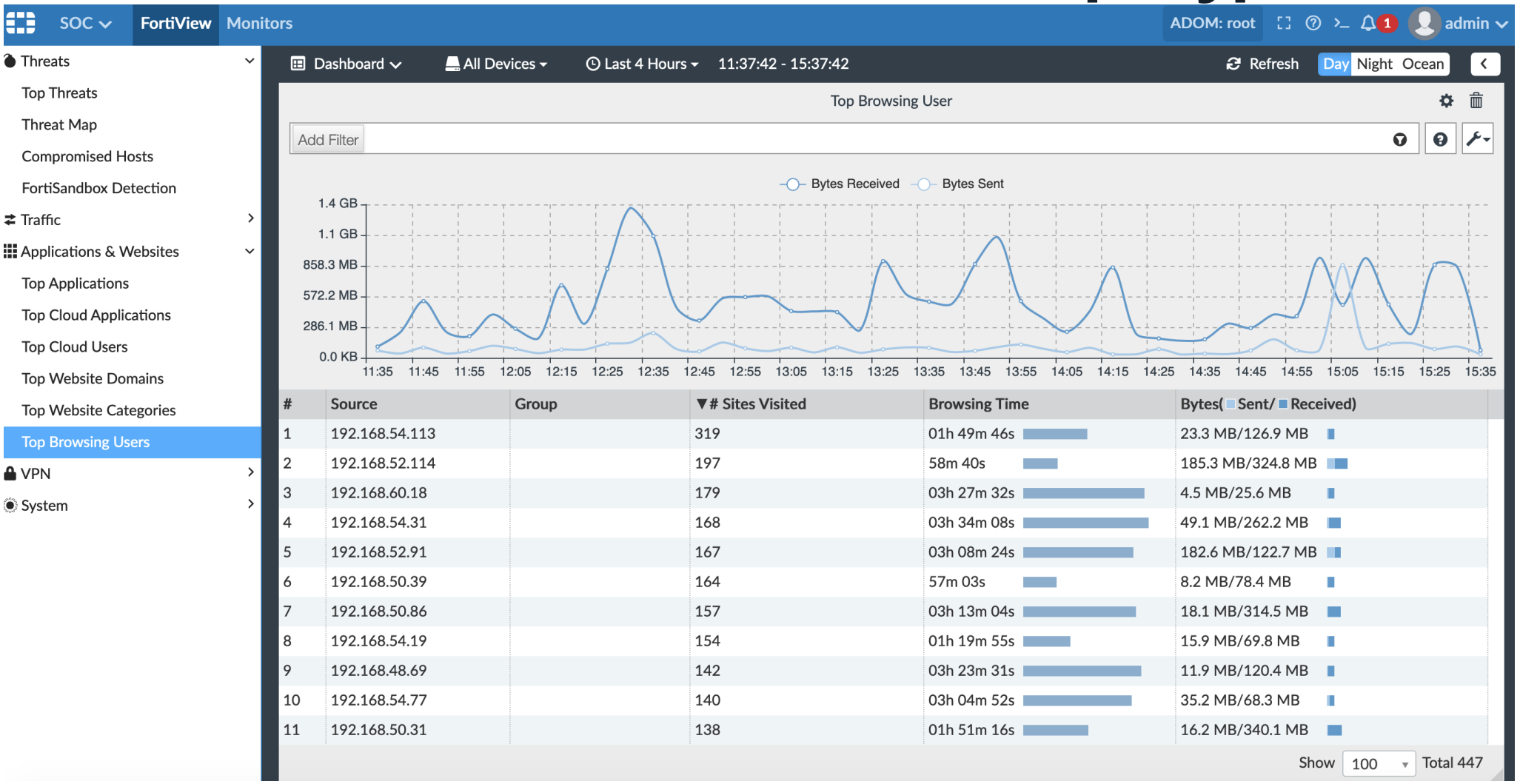
Fortinet Security Day 2019: статистика по пользователям и посещенным ими ресурсам



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1	192.168.54.113		319	01h 49m 46s	23.3 MB/126.9 MB
2	192.168.52.114		197	58m 40s	185.3 MB/324.8 MB
3	192.168.60.18		179	03h 27m 32s	4.5 MB/25.6 MB
4	192.168.54.31		168	03h 34m 08s	49.1 MB/262.2 MB
5	192.168.52.91		167	03h 08m 24s	182.6 MB/122.7 MB
6	192.168.50.39		164	57m 03s	8.2 MB/78.4 MB
7	192.168.50.86		157	03h 13m 04s	18.1 MB/314.5 MB
8	192.168.54.19		154	01h 19m 55s	15.9 MB/69.8 MB
9	192.168.48.69		142	03h 23m 31s	11.9 MB/120.4 MB
10	192.168.54.77		140	03h 04m 52s	35.2 MB/68.3 MB
11	192.168.50.31		138	01h 51m 16s	16.2 MB/340.1 MB

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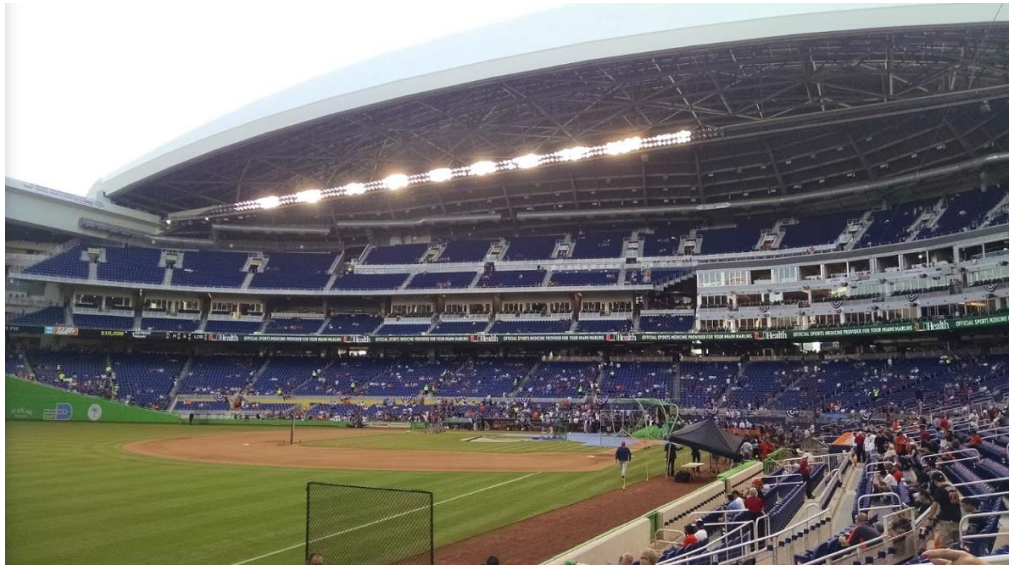


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