

**UNITED STATES  
PATENT AND TRADEMARK OFFICE**



# **TC 2400 Cybersecurity Partnership Meeting**

## **April 7, 2021**

Nestor Ramirez

Director, Technology Center 2400

UNITED STATES  
PATENT AND TRADEMARK OFFICE



# **TC 2400 Cybersecurity Partnership Meeting**

**Information session on cybersecurity patent applications and examination;  
Recent USPTO COVID-19 response and initiatives**

Jeffrey Nickerson

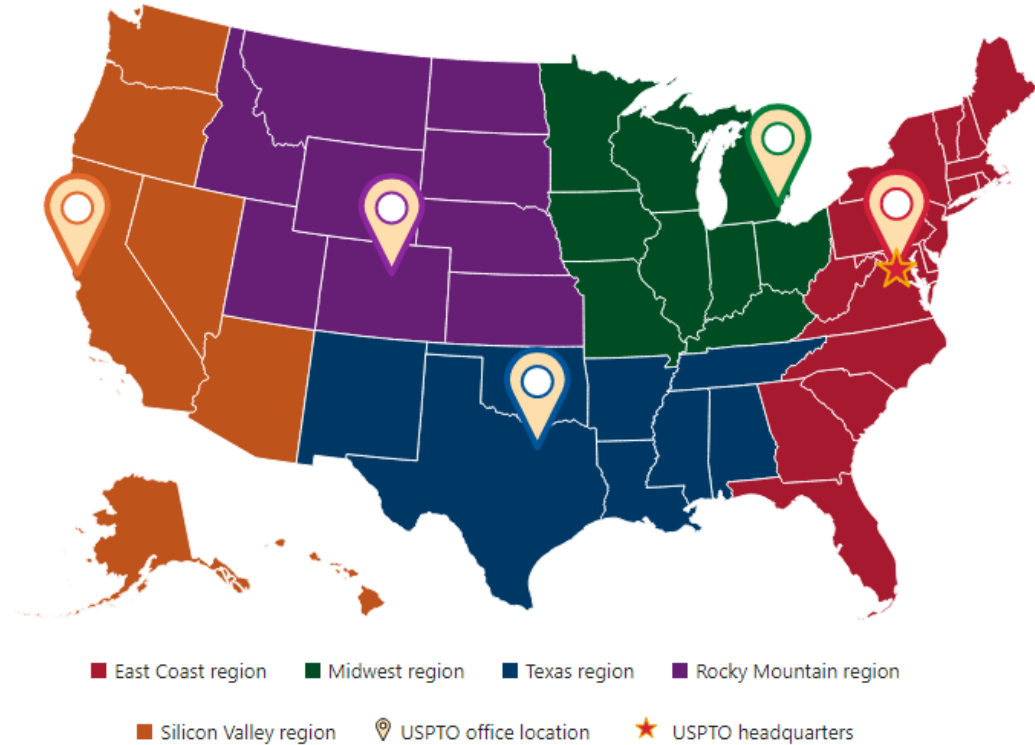
Supervisory Patent Examiner

UNITED STATES  
PATENT AND TRADEMARK OFFICE

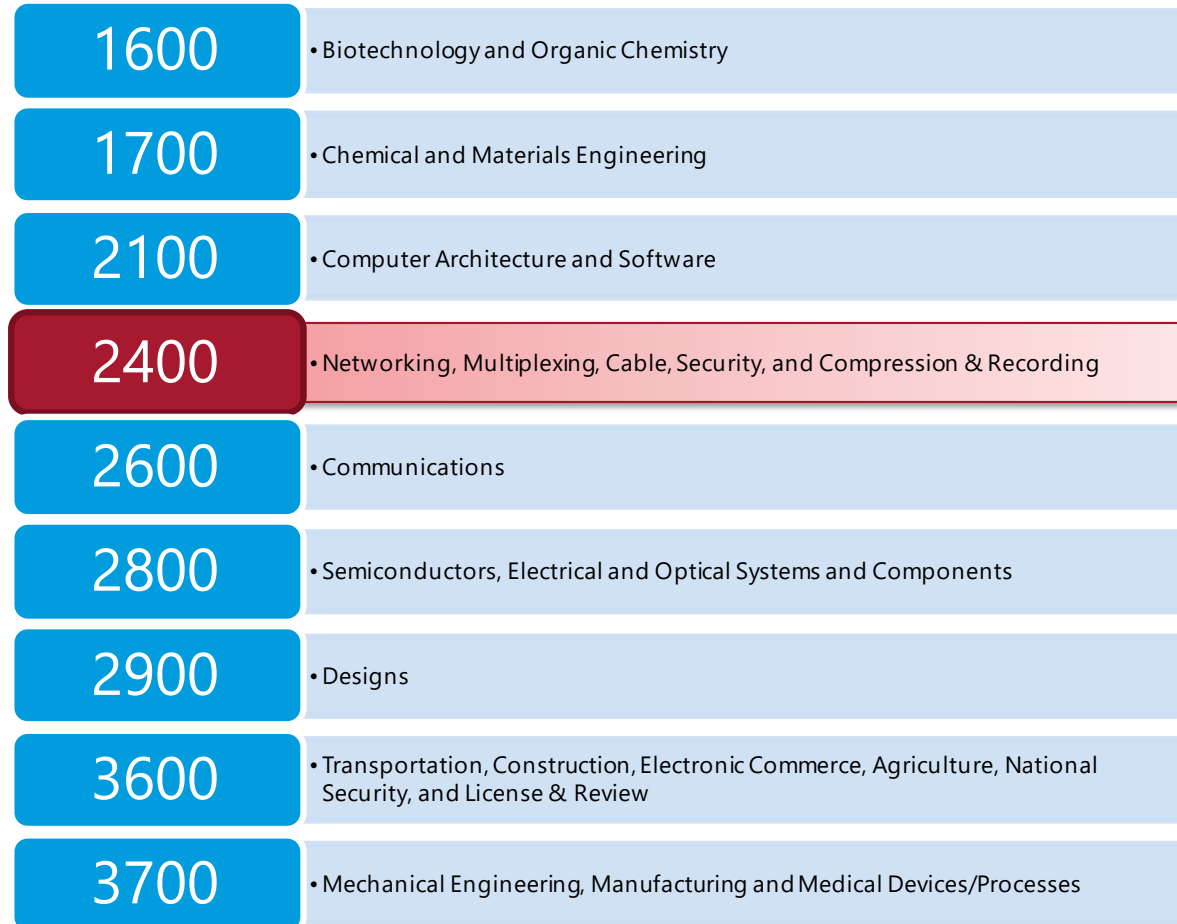


# About USPTO

- Mission: *Fostering innovation, competitiveness and economic growth, domestically and abroad to deliver high quality and timely examination of patent and trademark applications, guiding domestic and international intellectual property policy, and delivering intellectual property information and education worldwide, with a highly skilled, diverse workforce.*
- The USPTO operates a headquarters in Alexandria, Virginia and four regional offices.
- 13000+ professionals, including engineers, scientists and attorneys.



# Patent Technology Centers



**Technology Center 2400**  
*Networks, Multiplex, Cable, Security, Recording, Compression*  
**Robert Oberleitner, (Acting) Deputy Commissioner for Patents**



**Colleen Fauz**  
**Director**

**Workgroup 2420**  
**Cable**

6 SPEs  
 86 Examiners

CPC symbols include:  
 H04N 21/00

**Workgroup 2480**  
**Compression and Recording**

8 SPEs  
 115 Examiners

CPC symbols include:  
 H04N 19/00  
 12 others based on field of use



**Joseph Avellino**  
**(Acting) Director**

**Workgroup 2440, 2450**  
**Computer Networks**

20 SPEs  
 237 Examiners

CPC Symbols include:  
 H04L 67/00  
 H04L 41/00  
 H04L 43/00  
 H04L 51/00  
 H04L 61/00  
 H04L 65/00  
 H04L 69/00  
 H04L 29/00



**James Kramer**  
**Director**

**Workgroup 2410, 2460, 2470**  
**Multiplex**

21 SPEs  
 293 Examiners

CPC Symbols include:  
 H04B 7/00  
 H04J 1, 3, 4, 7, 9, 11, 13  
 H04L 1, 5, 12, 43, 45, 47, 49  
 H04W 8, 16, 24, 28, 36, 40  
 H04W 48, 52, 56, 60, 64, 68  
 H04W 72, 74, 76, 84, 88, 92  
 Y02D 30/00



**Nestor R. Ramirez**  
**Director**

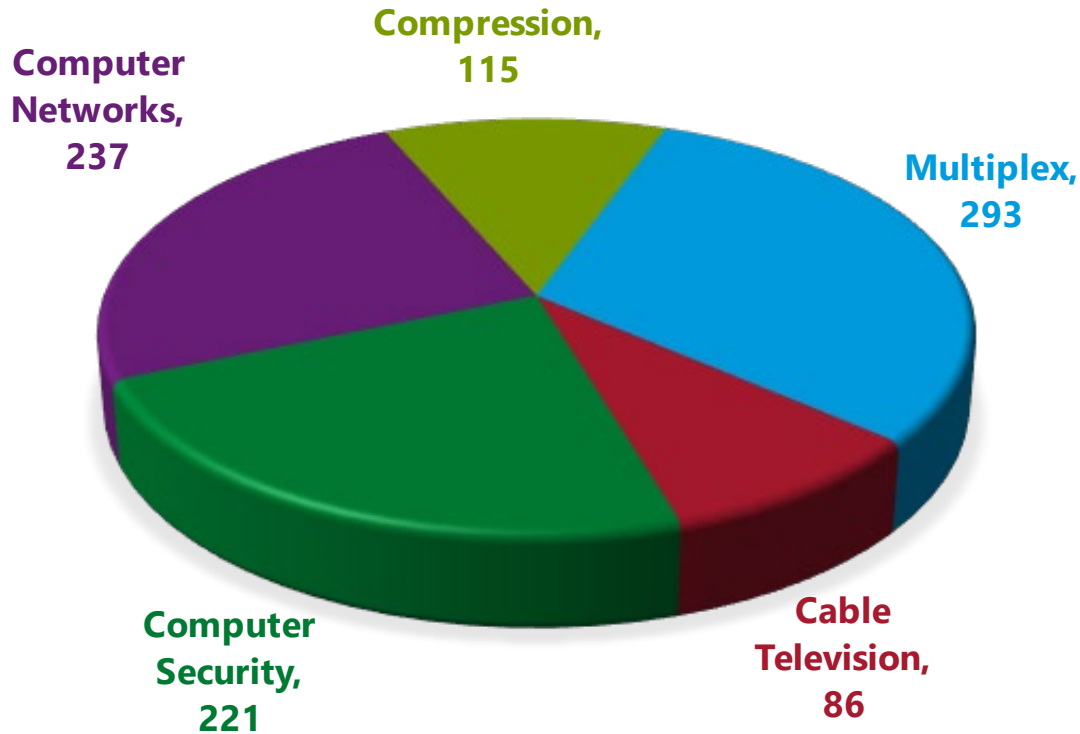
**Workgroup 2430, 2490**  
**Cryptography, Security**

16 SPEs  
 221 Examiners

CPC symbols include:  
 G06F 21/00  
 H04L 9/00  
 H04L 63/00  
 H04W 12/00



# TC 2400 patent examiners



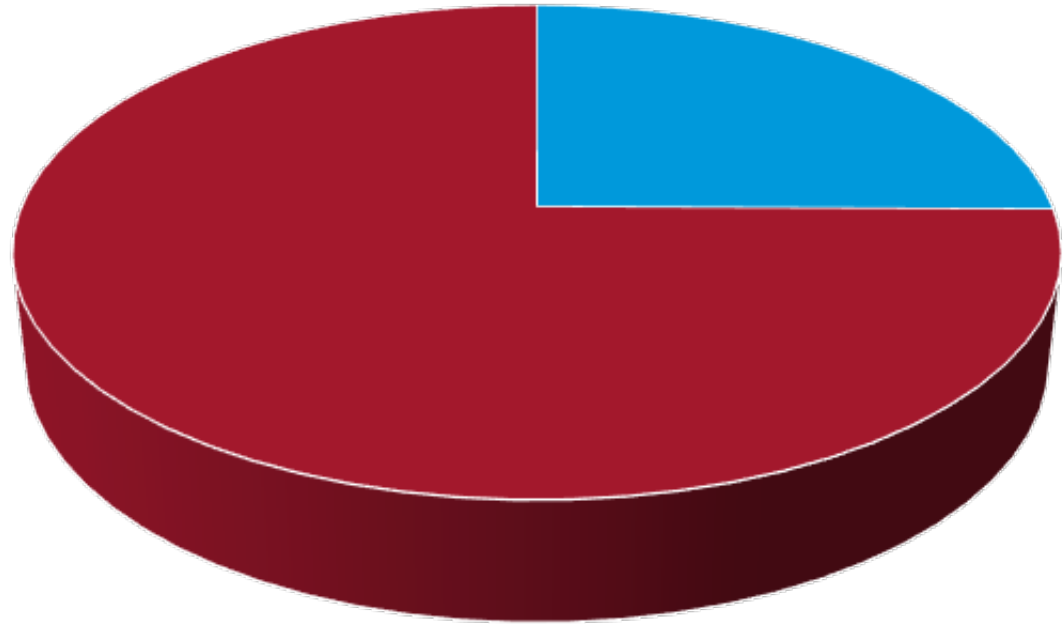
WORKGROUP	Art Units	Number of Examiners
MULTIPLEX	21	293
COMPUTER NETWORKS	20	237
COMPUTER SECURITY	16	221
COMPRESSION	8	115
CABLE TELEVISION	6	86



# Teleworking in TC 2400

Full-time vs Part-time

	PROGRAM TYPE	PARTICIPANTS
EXAMINERS	PTP10	22
	PTP20	18
	PTP32	182
	PHP	341
	PHP-TEAPP	319



■ Part-time ■ Full-time

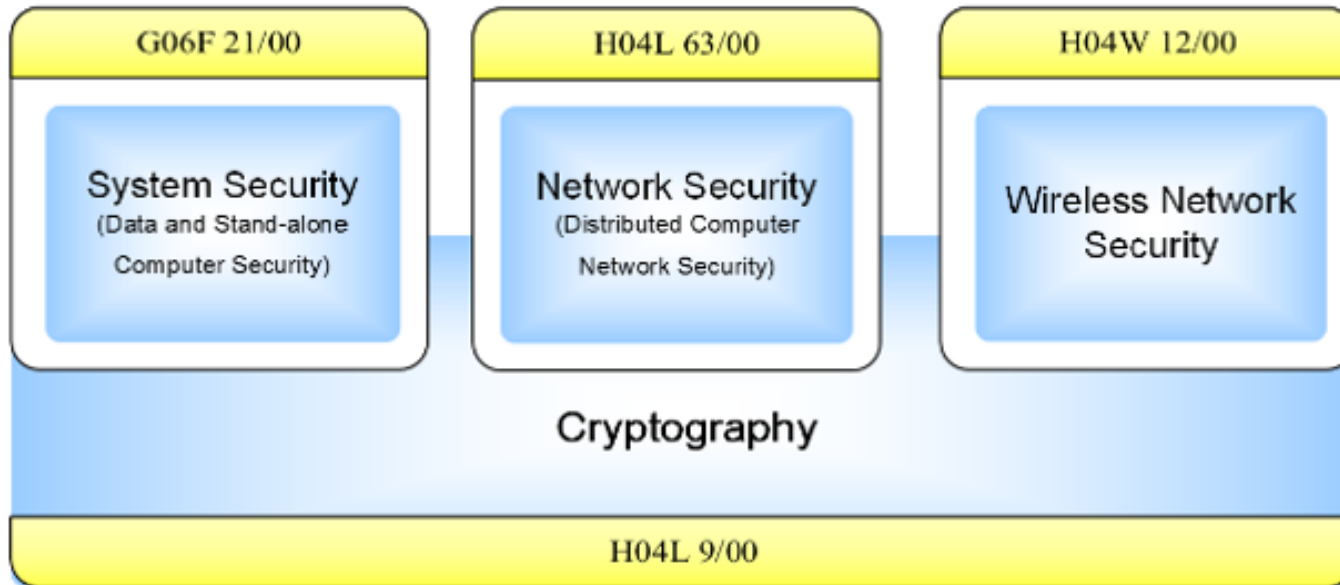
\*Appx. 95 examiners enrolled in situational ad-hoc telework program





# Computer security

## Scope of classification



# Top 15 countries of assignee

Information security and cryptography applications (grouped by filing date year)

	2016		2017		2018		2019	
	Assignee	No. Apps	Assignee	No. Apps	Assignee	No. Apps	Assignee	No. Apps
1	U.S.	5520	U.S.	5830	U.S.	5868	U.S.	5700
2	Japan	506	Japan	535	Japan	472	Japan	482
3	Korea	344	China	360	China	313	Korea	280
4	China	340	Korea	252	Germany	227	China	272
5	Germany	186	Germany	197	Korea	222	Germany	250
6	Israel	144	Israel	164	Israel	206	Israel	171
7	Canada	126	France	143	United Kingdom	162	Cayman Islands	169
8	France	125	United Kingdom	131	France	113	United Kingdom	138
9	United Kingdom	111	Sweden	109	Cayman Islands	95	France	104
10	Taiwan	81	Canada	103	Canada	91	Taiwan	102
11	Cayman Islands	75	Finland	87	Taiwan	88	Canada	89
12	Sweden	73	Cayman Islands	84	Sweden	73	Sweden	88
13	Finland	64	Netherlands	79	Netherlands	64	Netherlands	74
14	Netherlands	58	Taiwan	78	Switzerland	55	Singapore	58
15	Switzerland	50	Switzerland	58	Finland	51	Ireland	54



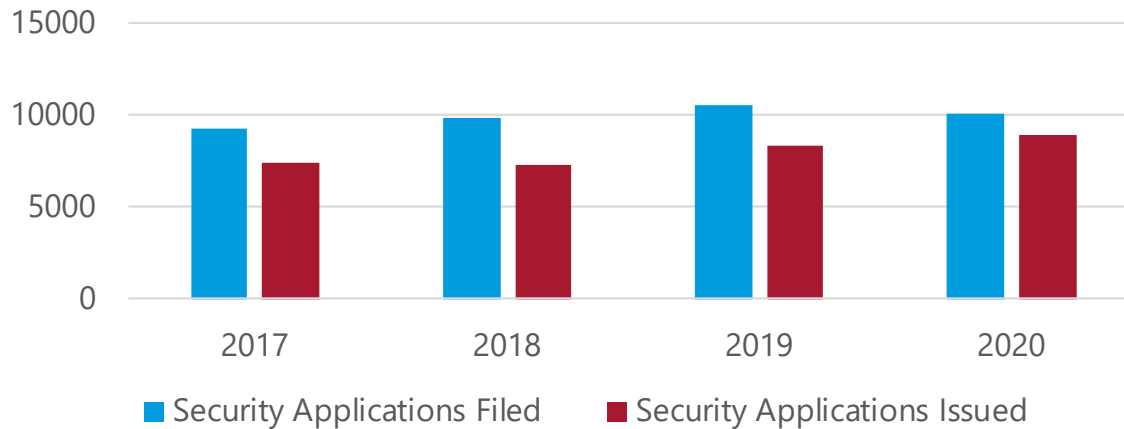
# Top 15 assignees

## Information security and cryptography applications (grouped by filing date year)

	2016		2017		2018		2019	
	Assignee	No. Apps	Assignee	No. Apps	Assignee	No. Apps	Assignee	No. Apps
1	IBM	613	IBM	801	IBM	641	IBM	744
2	Microsoft	234	Microsoft	313	Microsoft	238	Microsoft	248
3	Amazon	213	Amazon	221	Amazon	158	Capital One	207
4	Intel	174	CA, Inc	140	Intel	142	Bank of America	173
5	Cisco	151	Intel	130	Bank of America	127	Alibaba	162
6	Bank of America	138	Bank of America	118	Cisco	125	Cisco	134
7	Samsung	135	Cisco	98	CA, Inc	122	Amazon	128
8	CA, Inc	126	Huawei	92	HP	88	EMC	109
9	Qualcomm	103	Samsung	91	EMC	87	Intel	104
10	Google	95	Google	87	Huawei	80	Samsung	82
11	EMC	80	HP	86	Alibaba	78	VMWare	80
12	Fujitsu	69	Fujitsu	78	Samsung	75	Wells Fargo	74
13	Huawei	68	AT&T	73	Wells Fargo	71	McAfee	71
14	Norton	67	Qualcomm	72	Capital One	71	AT&T	71
15	HP	63	NEC	68	Citrix	66	Citrix	67

# Information security and cryptography applications - filed vs. issued

Calendar Year	2017	2018	2019	2020
Number of Security Applications Filed	9256	9865	10456	10074
Number of Security Applications Issued	7344	7288	8259	8839



# FY20 Pendency metrics

## Information security and cryptography applications

Security Patent Applications	FY-2020 Pendency
First Action Pendency (Average number of months between filing date and first action)	16.6 months
Total Action Pendency (Average number of months between filing date and issue or abandonment)	24.77 months

Security Patent Applications	FY-2020 Percentage of Actions with a Pendency within 4 months
Amendments	97.9%
RCEs	85.33%
PTAB Decisions	100%

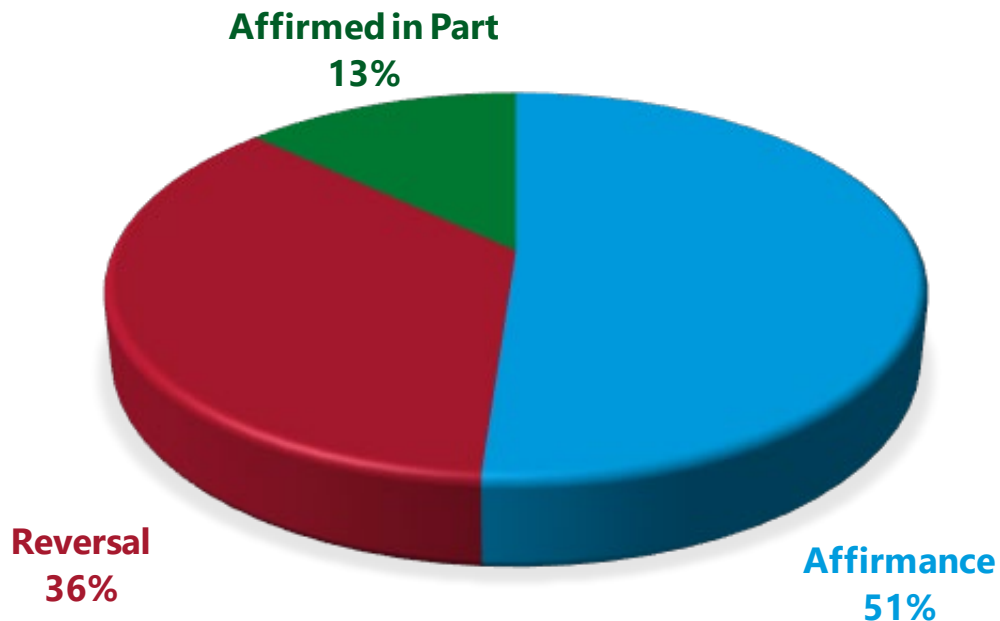


# FY20 Appeal metrics

## Information security and cryptography applications

Security Patent Applications	FY 2020
Appeal Briefs Filed	270
Reopened Prosecution after Appeal Briefs	111
Allowance following the filing of an Appeal Briefs	71
Examiner's Answers	153
Abandonment after Board Decision	69
Allowance after Board Decision	65
Reopened Prosecution after Board Decision	2

### BOARD DECISIONS



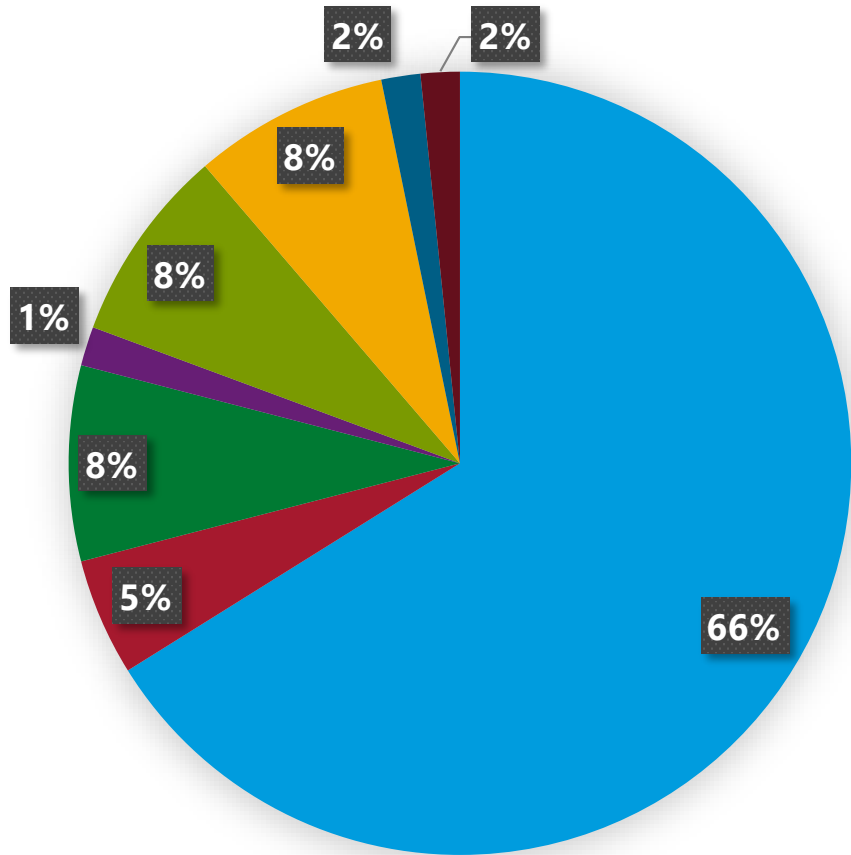
# Patent Quality

## Issue highly reliable patents

- Increase examiners' ability to obtain best prior art during examination
- Improve content, delivery and timeliness of technical and legal training to achieve more predictable outcomes
- Use patent quality data to identify areas for improvement to achieve more consistent outcomes
- Refine production standards to achieve patent quality expectations and goals
- Enhance transparency and communication of quality metrics



# FY20 security workgroup 35 USC 103 non-compliance (as determined by OPQA) root cause analysis



- Claimed features not found in cited portions of prior art
- Claimed features not found and no cited portions of prior art
- 35 USC 103 non-compliant for inheriting non-compliance from a 35 USC 102 rejection
- Omitted 35 USC 103 rejection
- Insufficient obviousness rationale (e.g. KSR or motivation)
- References in statement of rejection inconsistent with body of rejection
- Rejection contradicts itself
- Improper Inherency





# Security workgroup 35 USC 103 improvement initiatives

- Increased search training for examiners
- Increased 103 training for examiners
- SPE workgroup level reviews
  - SPEs review work of examiners in other art units and provide feedback
- Increased reviews of primary examiner work
- Increased reviews of outlier work

# Recent USPTO COVID-19 response and initiatives (patent-related, non-exhaustive)

- 3/12/2020 – Silicon Valley Regional Office closes and all employees may telework
- 3/16/2020 – USPTO closes all offices to the public
  - All PTAB and TTAB hearings will be held virtually by video and/or telephone until further notice
- 3/23/2020 – USPTO requires all telework eligible employees (94.51% of all USPTO positions are “telework eligible”) to telework full time until further notice, except mission critical employees who require on site access
- 6/25/2020 – USPTO reopens Alexandria HQ on limited basis to employees

Sources:

[https://www.uspto.gov/sites/default/files/documents/Telework\\_Annual\\_Report\\_2019-2020.pdf](https://www.uspto.gov/sites/default/files/documents/Telework_Annual_Report_2019-2020.pdf)

<https://www.uspto.gov/coronavirus>



# Recent USPTO COVID-19 response and initiatives (patent-related, non-exhaustive)

- 3/31/2020 – USPTO announces extension of certain timing deadlines under CARES act
- 5/8/2020 – USPTO announces COVID-19 Prioritized Examination Pilot Program for small and micro entities
  - To qualify, the claim(s) of an application must cover a product or process related to COVID-19, and such product or process must be subject to an applicable FDA approval for COVID-19 use.
  - As of 4/6/2021 for entire Corps: 583 filed / 345 granted / 155 available
- 6/2/2020 - USPTO reminds patent applicants to consider voluntary early publication of patent applications involving technologies related to the diagnosis, prevention or treatment of COVID-19
  - Generally, the USPTO publishes pending patent applications 18 months after the earliest effective filing date. No fee is required for publishing an application. Existing USPTO regulations also provide for earlier publication at the request of an applicant.

Sources:

<https://www.uspto.gov/coronavirus/uspto-covid-19-response-resource-center>

<https://www.uspto.gov/coronavirus>



# Recent USPTO COVID-19 response and initiatives (patent-related, non-exhaustive)

- 6/3/2020 - USPTO launches USPTO COVID-19 Response Resource Center, an online portal for compiling COVID-19 information and programs for external stakeholders
  - Includes all USPTO COVID-19 information and link to WIPO COVID-19 IP Policy tracker, which contains information about national and regional IP office's COVID-19 related policies
- 9/17/2020 – USPTO launches Deferred-fee Provisional Patent Application Pilot Program and collaboration database to encourage inventions related to COVID-19
- 2/1/2021 - USPTO announces relief for delays in filing certified copies of foreign priority applications due to the COVID-19 outbreak

Sources:

<https://www.uspto.gov/coronavirus/uspto-covid-19-response-resource-center>

<https://www.uspto.gov/coronavirus>



# USPTO Webex comparison

Webex Meeting Summary Information for 2019	Average Number of EXTERNAL Webex Meetings	Average Number of INTERNAL Webex Meetings
Average Number of Daily Meetings	14	503
Average Number of Minutes per Day	993	25,288
Average Number of Minutes per Meeting	71	50
Average Number of Attendees per Day	315	2,915
Average Number of Attendees per Meeting	23	6

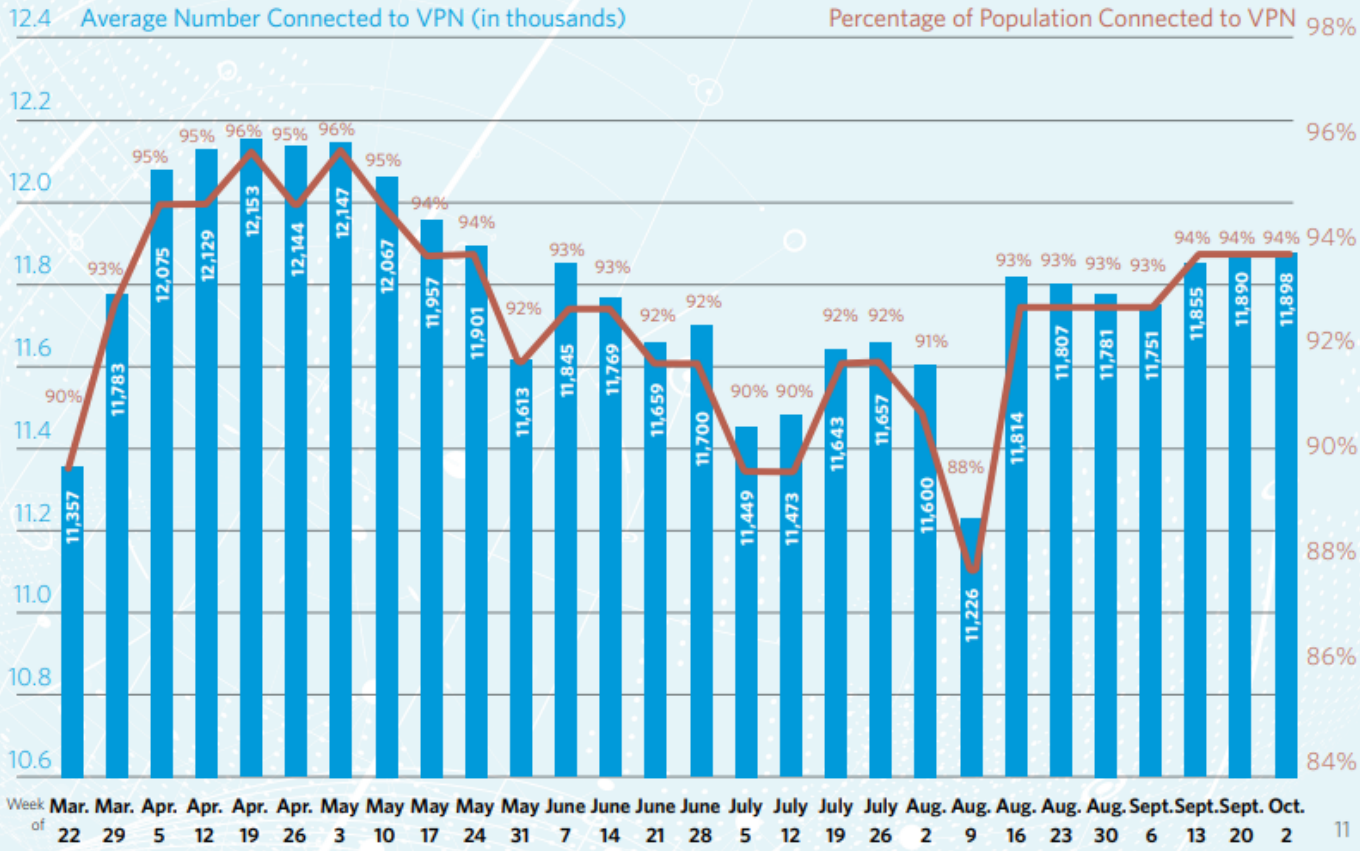
  

Webex Meeting Summary Information for 2020	Average Number of EXTERNAL Webex Meetings	Average Number of INTERNAL Webex Meetings
Average Number of Daily Meetings	51	796
Average Number of Minutes per Day	4,081	45,653
Average Number of Minutes per Meeting	80	57
Average Number of Attendees per Day	892	4,462
Average Number of Attendees per Meeting	17	6



# USPTO VPN utilization

VPN UTILIZATION DURING MANDATORY TELEWORK (FEDERAL EMPLOYEES ONLY)



# FY2020 USPTO telework statistics

## FY 2020 USPTO TELEWORK STATISTICS

Number of teleworkers at the USPTO	11,177
Number of eligible positions at the USPTO	12,227
Percentage of positions at the USPTO that are eligible	94.51%
Percentage of positions at the USPTO that are teleworking (agency-wide)	86.40%
Total number of Patents teleworkers	8,750
Percentage of eligible patent positions that are teleworking	90.63%
Total number of Trademarks teleworkers	855
Percentage of eligible trademark positions that are teleworking	98.39%
Number of patent positions teleworking four or five days per week	6,454
Number of trademark positions teleworking four or five days per week	593
Number of TEAPP participants	2,995

# USPTO telework survey

- **Groups 1 (newly on-boarded), 2 (never teleworked), and 3 (part time teleworker):**
  - Overall transition ratings were positive
  - Effectiveness and work accomplished were rated higher for teleworking vs. office
  - Tech support was heavily utilized and received high levels of satisfaction
  - More than 50% prefer indefinite teleworking or being in a full-time program rather than returning to the office
  - Only approximately 20% would prefer to return on a regularly scheduled basis
  - Risk of exposure at the office is the greatest concern for returning (85%)
- **All Employees:**
  - 60% reported they had experienced some (38%), moderate (13%), or significant (9%) personal challenges
  - Engagement scores were generally high, 70%-87% positive





# Questions or Comments?

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