

# IAITAM ACE

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**Engineering & Specialty Licensing -  
How to Manage? - Deep Dive**

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**NASHVILLE, TN  
MAY 9TH - 11TH**



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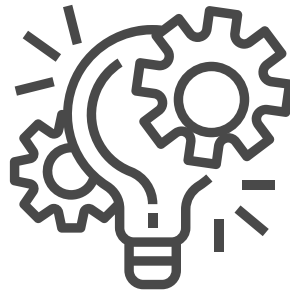
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# Today's Theme

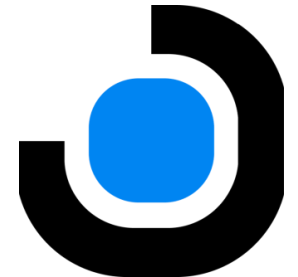
# VISIBILITY

Visibility is the key. Visibility into data, Visibility into business, Visibility into software, Visibility into scope, etc.



“We don’t want to be flying blind”

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# Key Topics



01

“Old World” Models



02

“New World” Trends



03

Compliance



# Chapter 01



## “Old World” Models



# IMPORTANT POINTS

1. Spectrum of different outlooks for License Optimization
2. General user behavior
3. License Models within the “Old World”
  - a. Network Concurrent
  - b. Network Named
  - c. Network Token
  - d. Non-network Named
4. Key Similarities & Differences between the models
5. Key Common Metrics/Data
6. Key Individual Metrics/Data
7. How to analyze metrics step by step to gain full visibility?





# Outlooks for License Optimization

- Wide Spectrum
- Organizational requirements
- Financial health
- Business trends
- Hardest Optimization & Savings vs Making sure all users have all licenses available at all times



# General User Behavior

- Primary concern for users is availability of licenses
- Project demands and deadlines are harsh
- Drive to acquire and keep license at all cost
- Normal life parallel - being in queue for highly sought item (Concert tickets)
- Minimal concern for users:
  - Optimal license usage
  - Other users
- Manifestations of this behavior
  - License hogging
  - Circumventing authorizations
  - Circumventing usage scope rules
- Results of this behavior
  - Non-compliance
  - Shortage of licenses
  - Delays
  - Fines





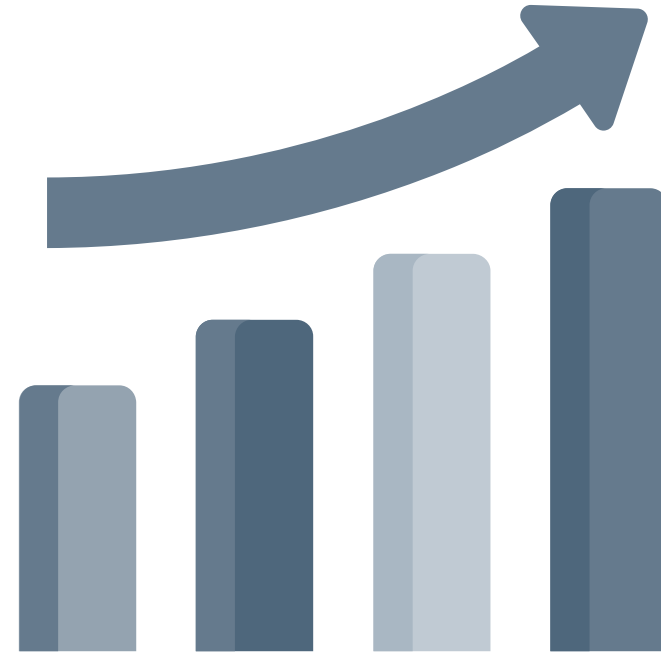
# Key Similarities & Differences between the models

- Centralized network license repository
  - staple of Concurrent, Named & Token Network licenses
  - Usually in the form of License Server hosting a License Manager
- Non-network Named
  - Online License repository (Cloud based, Account based)
  - Old school license key activating single product instance
  - Permanent vs Flexible vs Time based
- Single license for many entities
  - Concurrent & Token Network licenses
- Single license for single entity
  - User or Computer
  - Named licenses
- Tokens
  - Reusable vs Disposable



# Key Common Metrics

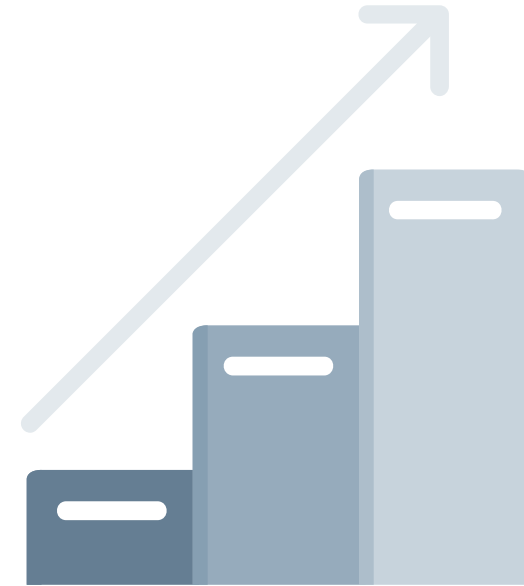
- Session Information
  - Start Time, End Time, Length
- Asset Information
  - User, Workstation, IP
- Actual Usage Information
  - Real Usage vs Idle Usage
- Idling
  - First Glance - only valid for Concurrent licenses
  - Deeper understanding - can reveal many incorrect practices for license usage



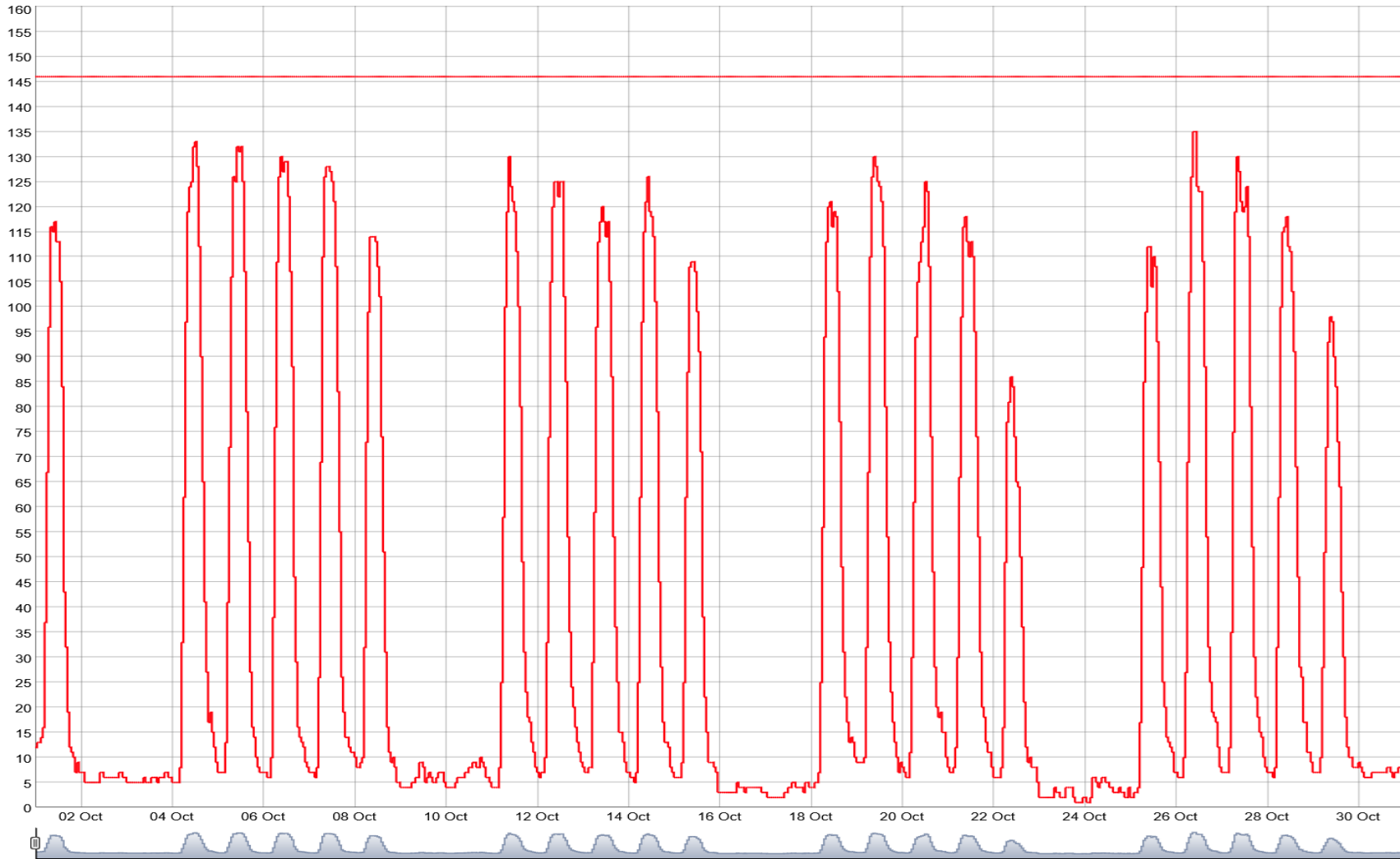


# Key Individual Metrics - Concurrent & Token Network Licenses

- Quantity Owned vs Peak Utilization
- Denials



# Concurrent Network Licenses - Quantity vs Peak Graphs - Healthy Usage



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# Concurrent Network Licenses - Quantity vs Peak Graphs - Healthy Usage

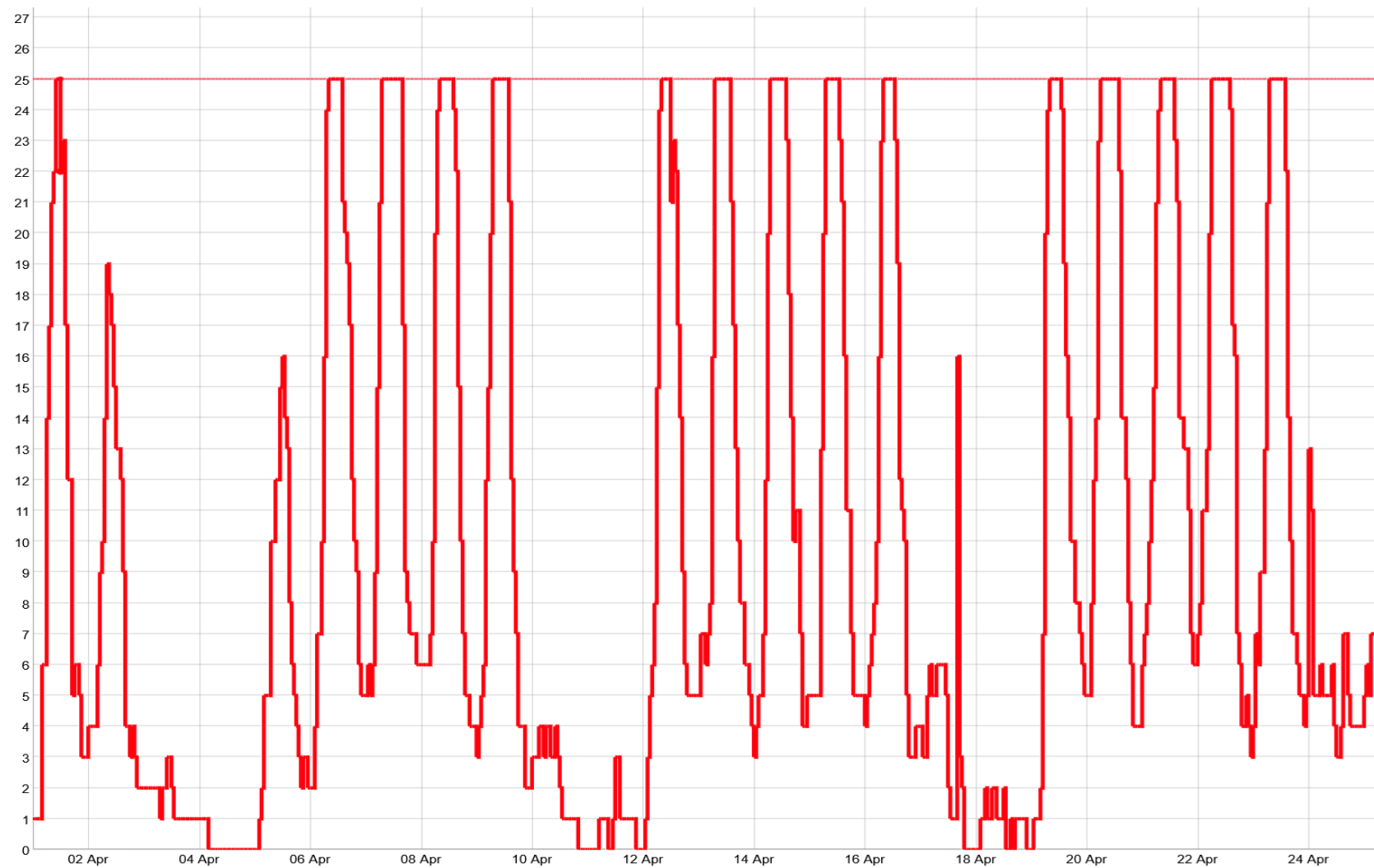
4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00
16 / 146 (10.96%)	37 / 146 (25.34%)	67 / 146 (45.89%)	96 / 146 (65.75%)	116 / 146 (79.45%)	115 / 146 (78.77%)	117 / 146 (80.14%)	113 / 146 (77.4%)	113 / 146 (77.4%)	105 / 146 (71.92%)	84 / 146 (57.53%)	43 / 146 (29.45%)	32 / 146 (21.92%)	19 / 146 (13.01%)	12 / 146 (8.22%)
5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	7 / 146 (4.79%)	7 / 146 (4.79%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)
5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)	5 / 146 (3.42%)
6 / 146 (4.11%)	33 / 146 (22.6%)	62 / 146 (42.47%)	97 / 146 (66.44%)	119 / 146 (81.51%)	124 / 146 (85.62%)	125 / 146 (85.62%)	132 / 146 (90.41%)	133 / 146 (91.1%)	128 / 146 (87.67%)	112 / 146 (76.71%)	90 / 146 (61.64%)	65 / 146 (44.52%)	41 / 146 (28.08%)	27 / 146 (18.49%)
13 / 146 (8.9%)	41 / 146 (28.08%)	72 / 146 (49.32%)	106 / 146 (72.6%)	126 / 146 (86.3%)	125 / 146 (85.62%)	132 / 146 (90.41%)	131 / 146 (89.73%)	132 / 146 (90.41%)	125 / 146 (85.62%)	107 / 146 (73.29%)	79 / 146 (54.11%)	53 / 146 (36.3%)	27 / 146 (18.49%)	16 / 146 (10.96%)
13 / 146 (8.9%)	38 / 146 (26.03%)	76 / 146 (52.05%)	109 / 146 (74.66%)	126 / 146 (86.3%)	130 / 146 (89.04%)	127 / 146 (86.99%)	129 / 146 (88.36%)	129 / 146 (88.36%)	122 / 146 (83.56%)	107 / 146 (73.29%)	88 / 146 (60.27%)	46 / 146 (31.51%)	29 / 146 (19.86%)	16 / 146 (10.96%)
5 / 146 (3.42%)	26 / 146 (17.81%)	69 / 146 (47.26%)	110 / 146 (75.34%)	126 / 146 (86.3%)	128 / 146 (87.67%)	128 / 146 (87.67%)	127 / 146 (86.99%)	125 / 146 (85.62%)	121 / 146 (82.88%)	108 / 146 (73.97%)	83 / 146 (56.85%)	55 / 146 (37.67%)	26 / 146 (17.81%)	19 / 146 (13.01%)
13 / 146 (8.9%)	32 / 146 (21.92%)	73 / 146 (50%)	99 / 146 (67.81%)	114 / 146 (78.08%)	114 / 146 (78.08%)	114 / 146 (78.08%)	113 / 146 (77.4%)	108 / 146 (73.97%)	102 / 146 (69.86%)	74 / 146 (50.68%)	51 / 146 (34.93%)	31 / 146 (21.23%)	16 / 146 (10.96%)	11 / 146 (7.53%)
4 / 146 (2.74%)	4 / 146 (2.74%)	5 / 146 (3.42%)	5 / 146 (3.42%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)	5 / 146 (3.42%)	6 / 146 (4.11%)	7 / 146 (4.79%)	6 / 146 (4.11%)	5 / 146 (3.42%)	5 / 146 (3.42%)
4 / 146 (2.74%)	5 / 146 (3.42%)	5 / 146 (3.42%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)	7 / 146 (4.79%)	7 / 146 (4.79%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)	6 / 146 (4.11%)	10 / 146 (6.85%)
6 / 146 (4.11%)	25 / 146 (17.12%)	58 / 146 (39.73%)	100 / 146 (68.49%)	119 / 146 (81.51%)	130 / 146 (89.04%)	124 / 146 (85.62%)	121 / 146 (82.88%)	119 / 146 (81.51%)	111 / 146 (76.03%)	100 / 146 (68.49%)	80 / 146 (54.79%)	49 / 146 (33.56%)	31 / 146 (21.23%)	23 / 146 (15.75%)
16 / 146 (10.96%)	33 / 146 (22.6%)	74 / 146 (50.68%)	105 / 146 (71.92%)	120 / 146 (82.19%)	125 / 146 (85.62%)	125 / 146 (85.62%)	122 / 146 (83.56%)	125 / 146 (85.62%)	125 / 146 (85.62%)	102 / 146 (69.86%)	85 / 146 (58.22%)	54 / 146 (36.99%)	35 / 146 (23.97%)	24 / 146 (16.44%)
6 / 146 (4.11%)	29 / 146 (19.86%)	59 / 146 (40.41%)	96 / 146 (65.75%)	113 / 146 (77.4%)	117 / 146 (80.14%)	120 / 146 (82.19%)	117 / 146 (80.14%)	114 / 146 (78.08%)	107 / 146 (73.29%)	105 / 146 (71.92%)	86 / 146 (58.9%)	54 / 146 (36.99%)	36 / 146 (24.66%)	25 / 146 (17.12%)
7 / 146 (4.79%)	25 / 146 (17.12%)	62 / 146 (42.47%)	97 / 146 (66.44%)	115 / 146 (78.77%)	121 / 146 (82.88%)	126 / 146 (86.3%)	119 / 146 (81.51%)	118 / 146 (80.82%)	114 / 146 (78.08%)	101 / 146 (69.18%)	79 / 146 (54.11%)	45 / 146 (30.82%)	28 / 146 (19.18%)	17 / 146 (11.64%)
6 / 146 (4.11%)	25 / 146 (17.12%)	62 / 146 (42.47%)	87 / 146 (59.59%)	108 / 146 (73.97%)	109 / 146 (74.66%)	109 / 146 (74.66%)	107 / 146 (73.29%)	99 / 146 (67.81%)	91 / 146 (62.33%)	71 / 146 (48.63%)	38 / 146 (26.03%)	22 / 146 (15.07%)	15 / 146 (10.27%)	6 / 146 (4.11%)
3 / 146 (2.05%)	3 / 146 (2.05%)	3 / 146 (2.05%)	3 / 146 (2.05%)	3 / 146 (2.05%)	3 / 146 (2.05%)	4 / 146 (2.74%)	4 / 146 (2.74%)	4 / 146 (2.74%)	3 / 146 (2.05%)	4 / 146 (2.74%)	4 / 146 (2.74%)	4 / 146 (2.74%)	3 / 146 (2.05%)	4 / 146 (2.74%)
2 / 146 (1.37%)	2 / 146 (1.37%)	2 / 146 (1.37%)	2 / 146 (1.37%)	2 / 146 (1.37%)	2 / 146 (1.37%)	3 / 146 (2.05%)	3 / 146 (2.05%)	4 / 146 (2.74%)	3 / 146 (2.05%)	5 / 146 (3.42%)	5 / 146 (3.42%)	4 / 146 (2.74%)	3 / 146 (2.05%)	4 / 146 (2.74%)
7 / 146 (4.79%)	25 / 146 (17.12%)	56 / 146 (38.36%)	94 / 146 (64.38%)	113 / 146 (77.4%)	120 / 146 (82.19%)	121 / 146 (82.88%)	116 / 146 (79.45%)	119 / 146 (81.51%)	118 / 146 (80.82%)	103 / 146 (70.55%)	77 / 146 (52.74%)	48 / 146 (32.88%)	31 / 146 (21.23%)	22 / 146 (15.07%)
16 / 146 (10.96%)	32 / 146 (21.92%)	67 / 146 (45.89%)	110 / 146 (75.34%)	126 / 146 (86.3%)	130 / 146 (89.04%)	128 / 146 (87.67%)	125 / 146 (85.62%)	124 / 146 (84.93%)	121 / 146 (82.88%)	112 / 146 (76.71%)	80 / 146 (54.79%)	54 / 146 (36.99%)	33 / 146 (22.6%)	23 / 146 (15.75%)
11 / 146 (7.53%)	30 / 146 (20.55%)	61 / 146 (41.78%)	94 / 146 (64.38%)	105 / 146 (71.92%)	109 / 146 (74.66%)	113 / 146 (77.4%)	116 / 146 (79.45%)	125 / 146 (85.62%)	123 / 146 (84.23%)	108 / 146 (73.97%)	74 / 146 (50.68%)	47 / 146 (32.19%)	28 / 146 (19.18%)	20 / 146 (13.7%)
12 / 146 (8.22%)	30 / 146 (20.55%)	66 / 146 (45.21%)	98 / 146 (67.12%)	116 / 146 (79.45%)	118 / 146 (80.82%)	113 / 146 (77.4%)	110 / 146 (75.34%)	113 / 146 (77.4%)	110 / 146 (75.34%)	95 / 146 (65.07%)	74 / 146 (50.68%)	54 / 146 (36.99%)	31 / 146 (21.23%)	20 / 146 (13.7%)
6 / 146 (4.11%)	16 / 146 (10.96%)	49 / 146 (33.56%)	77 / 146 (52.74%)	81 / 146 (55.48%)	86 / 146 (58.9%)	84 / 146 (57.53%)	74 / 146 (50.68%)	65 / 146 (44.52%)	64 / 146 (43.84%)	50 / 146 (34.25%)	36 / 146 (24.66%)	21 / 146 (14.38%)	12 / 146 (8.22%)	6 / 146 (4.11%)



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# Concurrent Network Licenses - Quantity vs Peak Graphs - Unhealthy Usage



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# Concurrent Network Licenses - Quantity vs Peak Graphs - Unhealthy Usage

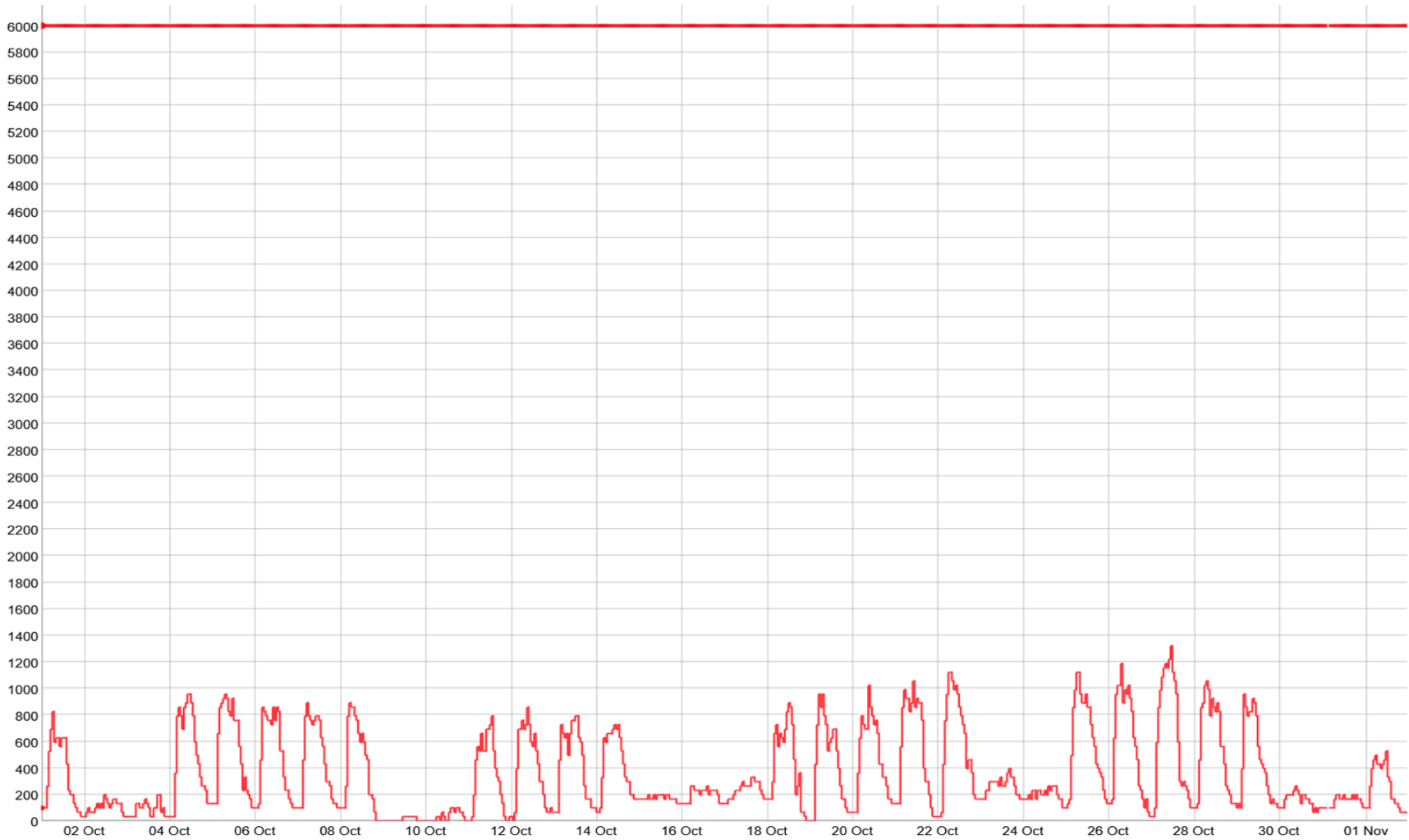
3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00
1 / 25 (4%)	6 / 25 (24%)	6 / 25 (24%)	14 / 25 (56%)	17 / 25 (68%)	21 / 25 (84%)	22 / 25 (88%)	25 / 25 (100%)	25 / 25 (100%)	22 / 25 (88%)	23 / 25 (92%)	17 / 25 (68%)	12 / 25 (48%)	12 / 25 (48%)	5 / 25 (20%)	6 / 25 (24%)	6 / 25 (24%)
4 / 25 (16%)	6 / 25 (24%)	9 / 25 (36%)	10 / 25 (40%)	14 / 25 (56%)	19 / 25 (76%)	18 / 25 (72%)	17 / 25 (68%)	15 / 25 (60%)	13 / 25 (52%)	13 / 25 (52%)	12 / 25 (48%)	9 / 25 (36%)	4 / 25 (16%)	4 / 25 (16%)	3 / 25 (12%)	4 / 25 (16%)
2 / 25 (8%)	2 / 25 (8%)	2 / 25 (8%)	2 / 25 (8%)	1 / 25 (4%)	2 / 25 (8%)	2 / 25 (8%)	3 / 25 (12%)	3 / 25 (12%)	2 / 25 (8%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)
1 / 25 (4%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)	0 / 25 (0%)
2 / 25 (8%)	5 / 25 (20%)	5 / 25 (20%)	5 / 25 (20%)	10 / 25 (40%)	10 / 25 (40%)	12 / 25 (48%)	12 / 25 (48%)	15 / 25 (60%)	16 / 25 (64%)	14 / 25 (56%)	13 / 25 (52%)	8 / 25 (32%)	6 / 25 (24%)	5 / 25 (20%)	4 / 25 (16%)	3 / 25 (12%)
7 / 25 (28%)	7 / 25 (28%)	10 / 25 (40%)	16 / 25 (64%)	24 / 25 (96%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	21 / 25 (84%)	20 / 25 (80%)	19 / 25 (76%)	17 / 25 (68%)	12 / 25 (48%)	10 / 25 (40%)
6 / 25 (24%)	9 / 25 (36%)	15 / 25 (60%)	21 / 25 (84%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	17 / 25 (68%)	9 / 25 (36%)	7 / 25 (28%)
6 / 25 (24%)	7 / 25 (28%)	10 / 25 (40%)	20 / 25 (80%)	24 / 25 (96%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	24 / 25 (96%)	22 / 25 (88%)	15 / 25 (60%)	10 / 25 (40%)	7 / 25 (28%)	5 / 25 (20%)
6 / 25 (24%)	12 / 25 (48%)	15 / 25 (60%)	20 / 25 (80%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	21 / 25 (84%)	12 / 25 (48%)	9 / 25 (36%)	7 / 25 (28%)	4 / 25 (16%)	4 / 25 (16%)
4 / 25 (16%)	4 / 25 (16%)	3 / 25 (12%)	4 / 25 (16%)	4 / 25 (16%)	3 / 25 (12%)	3 / 25 (12%)	4 / 25 (16%)	3 / 25 (12%)	2 / 25 (8%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)
0 / 25 (0%)	0 / 25 (0%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	0 / 25 (0%)	0 / 25 (0%)	1 / 25 (4%)	3 / 25 (12%)	3 / 25 (12%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)
5 / 25 (20%)	6 / 25 (24%)	8 / 25 (32%)	15 / 25 (60%)	24 / 25 (96%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	21 / 25 (84%)	23 / 25 (92%)	22 / 25 (88%)	17 / 25 (68%)	14 / 25 (56%)	9 / 25 (36%)	6 / 25 (24%)	5 / 25 (20%)
6 / 25 (24%)	7 / 25 (28%)	8 / 25 (32%)	16 / 25 (64%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	21 / 25 (84%)	17 / 25 (68%)	13 / 25 (52%)	10 / 25 (40%)	8 / 25 (32%)	8 / 25 (32%)
5 / 25 (20%)	7 / 25 (28%)	12 / 25 (48%)	20 / 25 (80%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	23 / 25 (92%)	18 / 25 (72%)	14 / 25 (56%)	10 / 25 (40%)	11 / 25 (44%)	11 / 25 (44%)
5 / 25 (20%)	5 / 25 (20%)	13 / 25 (52%)	20 / 25 (80%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	23 / 25 (92%)	21 / 25 (84%)	16 / 25 (64%)	11 / 25 (44%)	11 / 25 (44%)	7 / 25 (28%)	5 / 25 (20%)
7 / 25 (28%)	8 / 25 (32%)	10 / 25 (40%)	16 / 25 (64%)	23 / 25 (92%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	25 / 25 (100%)	23 / 25 (92%)	19 / 25 (76%)	12 / 25 (48%)	11 / 25 (44%)	10 / 25 (40%)	5 / 25 (20%)	3 / 25 (12%)
5 / 25 (20%)	6 / 25 (24%)	5 / 25 (20%)	5 / 25 (20%)	6 / 25 (24%)	6 / 25 (24%)	6 / 25 (24%)	6 / 25 (24%)	5 / 25 (20%)	2 / 25 (8%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	16 / 25 (64%)	3 / 25 (12%)	2 / 25 (8%)	0 / 25 (0%)
1 / 25 (4%)	2 / 25 (8%)	1 / 25 (4%)	1 / 25 (4%)	2 / 25 (8%)	2 / 25 (8%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)	2 / 25 (8%)	0 / 25 (0%)	0 / 25 (0%)	1 / 25 (4%)	0 / 25 (0%)	1 / 25 (4%)	1 / 25 (4%)	1 / 25 (4%)



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# Concurrent Network Licenses - Quantity vs Peak Graphs - Minimal Usage



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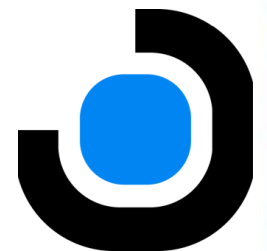


# Concurrent Network Licenses - Quantity vs Peak Graphs - Minimal Usage

6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00
825 / 6000 (13.75%)	594 / 6000 (9.9%)	627 / 6000 (10.45%)	627 / 6000 (10.45%)	561 / 6000 (9.35%)	627 / 6000 (10.45%)	627 / 6000 (10.45%)	627 / 6000 (10.45%)	429 / 6000 (7.15%)
99 / 6000 (1.65%)	132 / 6000 (2.2%)	99 / 6000 (1.65%)	132 / 6000 (2.2%)	99 / 6000 (1.65%)	165 / 6000 (2.75%)	165 / 6000 (2.75%)	132 / 6000 (2.2%)	99 / 6000 (1.65%)
132 / 6000 (2.2%)	99 / 6000 (1.65%)	99 / 6000 (1.65%)	132 / 6000 (2.2%)	165 / 6000 (2.75%)	132 / 6000 (2.2%)	99 / 6000 (1.65%)	33 / 6000 (0.55%)	33 / 6000 (0.55%)
792 / 6000 (13.2%)	693 / 6000 (11.55%)	858 / 6000 (14.3%)	891 / 6000 (14.85%)	957 / 6000 (15.95%)	957 / 6000 (15.95%)	891 / 6000 (14.85%)	792 / 6000 (13.2%)	594 / 6000 (9.9%)
924 / 6000 (15.4%)	957 / 6000 (15.95%)	924 / 6000 (15.4%)	825 / 6000 (13.75%)	792 / 6000 (13.2%)	924 / 6000 (15.4%)	759 / 6000 (12.65%)	759 / 6000 (12.65%)	759 / 6000 (12.65%)
792 / 6000 (13.2%)	759 / 6000 (12.65%)	759 / 6000 (12.65%)	726 / 6000 (12.1%)	858 / 6000 (14.3%)	759 / 6000 (12.65%)	858 / 6000 (14.3%)	825 / 6000 (13.75%)	528 / 6000 (8.8%)
792 / 6000 (13.2%)	759 / 6000 (12.65%)	726 / 6000 (12.1%)	759 / 6000 (12.65%)	792 / 6000 (13.2%)	792 / 6000 (13.2%)	759 / 6000 (12.65%)	627 / 6000 (10.45%)	561 / 6000 (9.35%)
858 / 6000 (14.3%)	858 / 6000 (14.3%)	792 / 6000 (13.2%)	759 / 6000 (12.65%)	660 / 6000 (11%)	594 / 6000 (9.9%)	660 / 6000 (11%)	594 / 6000 (9.9%)	495 / 6000 (8.25%)
0 / 6000 (0%)	0 / 6000 (0%)	0 / 6000 (0%)	0 / 6000 (0%)	0 / 6000 (0%)	33 / 6000 (0.55%)	33 / 6000 (0.55%)	33 / 6000 (0.55%)	33 / 6000 (0.55%)
33 / 6000 (0.55%)	33 / 6000 (0.55%)	0 / 6000 (0%)	66 / 6000 (1.1%)	33 / 6000 (0.55%)	0 / 6000 (0%)	0 / 6000 (0%)	66 / 6000 (1.1%)	99 / 6000 (1.65%)



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# Key Individual Metrics - Named Network Licenses

- Time since last license checkout
- 30-days/Month Named Network models
- Automatic license recycling - If available
- Dassault 3DExperience
- Siemens TeamCenter





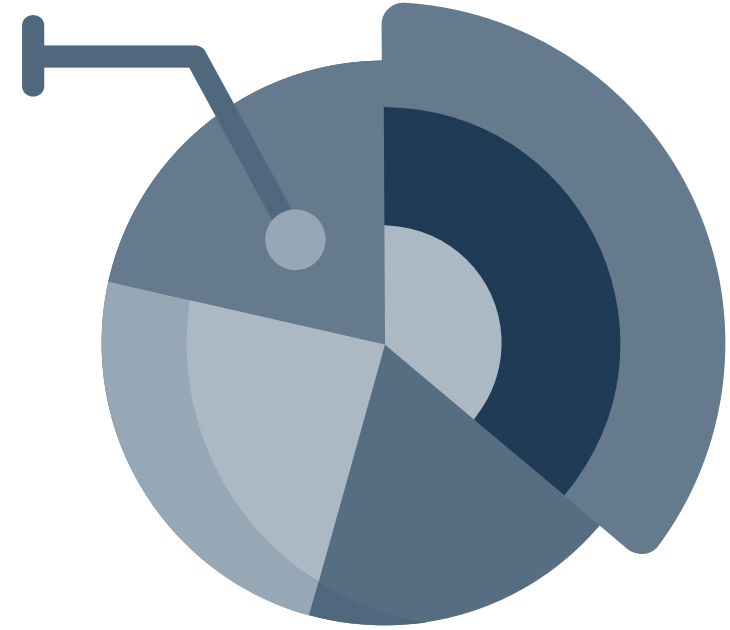
# Key Individual Metrics - Named non-network license

- Allocations



# How to analyze the metrics to gain full visibility

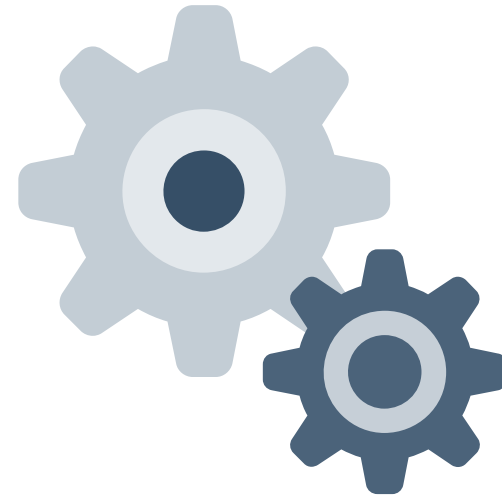
- Input Data
  - Entitlement Information
  - Allocation Information
  - Usage Information
  - Contractual Obligations
  - License Usage Scopes
- Additional/Optional
  - Application/License Purpose
  - Business Unit/Department/Team/User Purpose





# How to analyze the metrics to gain full visibility - Stage 1

- Concurrent & Token Network Models
- Analyzing Peak Usage vs QTY Owned
- Selecting the correct license or license pool
  - Depends on the company license infrastructure
  - Can be a single license or a combination of multiple licenses from multiple regions with overlapping functionality
  - HD2 & MD2 CATIA license is a perfect example
- Analyzing Report output
- Is the Peak Usage reaching to the Quantity Owned?
- How close?
- What are the projections from Business?
- Are there any deviations expected in the future?
- More projects? Fewer projects?
- Increase headcount? Decrease headcount?
- By how much?
- Simple QTY vs Peak Graph (or Heatmap) gives easy and straight answers
- But is it enough?

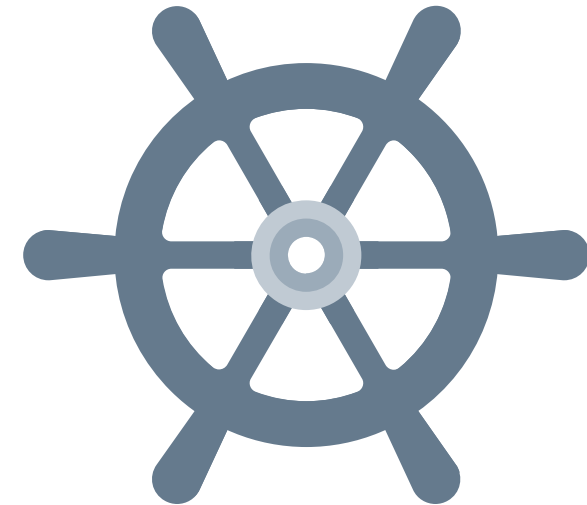


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# How to analyze the metrics to gain full visibility - Stage 2

## Any License Model

- Analyzing Session Information
  - Session/s per License, per User, per Group of Users, per Projects, per Department, per Business Unit
- Looking for outliers/extremities
  - Someone using license for too long?
  - Someone using license for too short?
  - User, Group, Department, BU using a license not in their portfolio?
  - License Usage outside of a valid Usage Scope?
  - What can we infer?
  - What can we learn?
- Beyond Specialty & Engineering licenses
  - Adobe
  - Microsoft Project/Visio



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# How to analyze the metrics to gain full visibility - Stage 3

Primarily Concurrent & Token Network License Models, useful to certain degree for any License Model

- Analyzing Idle information
- Common practice to leave applications idling
- Primary Concern - Prevents other users to take licenses
- Secondary Concern - Incorrect Application usage practices



# How to analyze the metrics to gain full visibility - Stage 4

## Any License Model

- Analyzing and understanding applications' function and purpose
- Understanding overlapping application's functionality
  - Within individual application (CATIA MD2 vs HD2 licenses)
  - Between different applications (Autodesk Inventor vs Dassault Solidworks)
- Fishing for overlapping usage





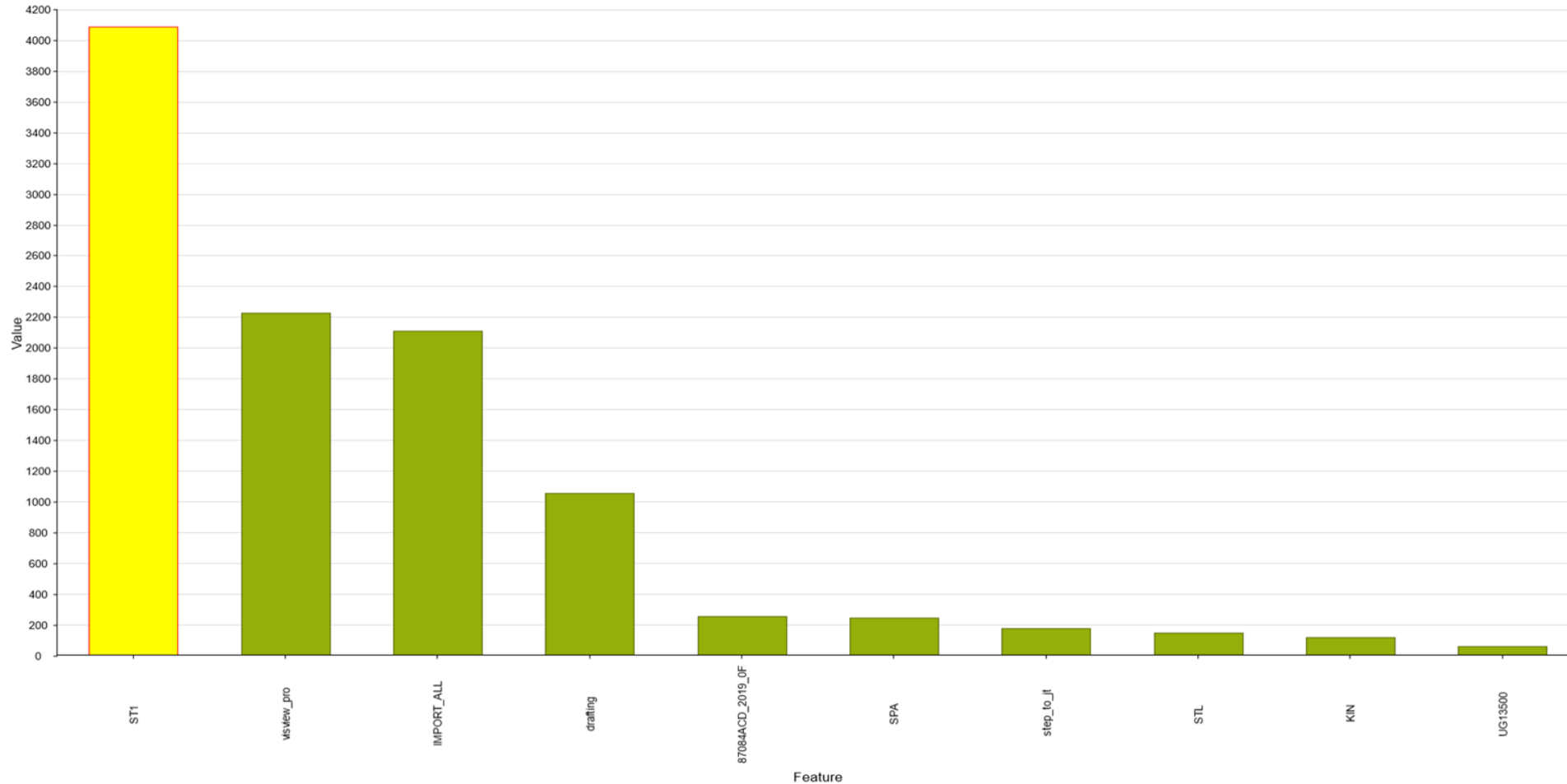
# How to analyze the metrics to gain full visibility - Stage 5

## Concurrent Network & Reusable Token License Model

- Analyzing Denials
- Denials always point to a problem
- The problem may or may not be insufficient amount of licenses
- To get most out of Denial analysis - Stages 1 through 4 should be completed first
- Sample Denial reasons
  - Not enough licenses
  - Incorrect authorization rules in place
  - Incorrect application usage



# Concurrent Network Licenses - Denials Graphs

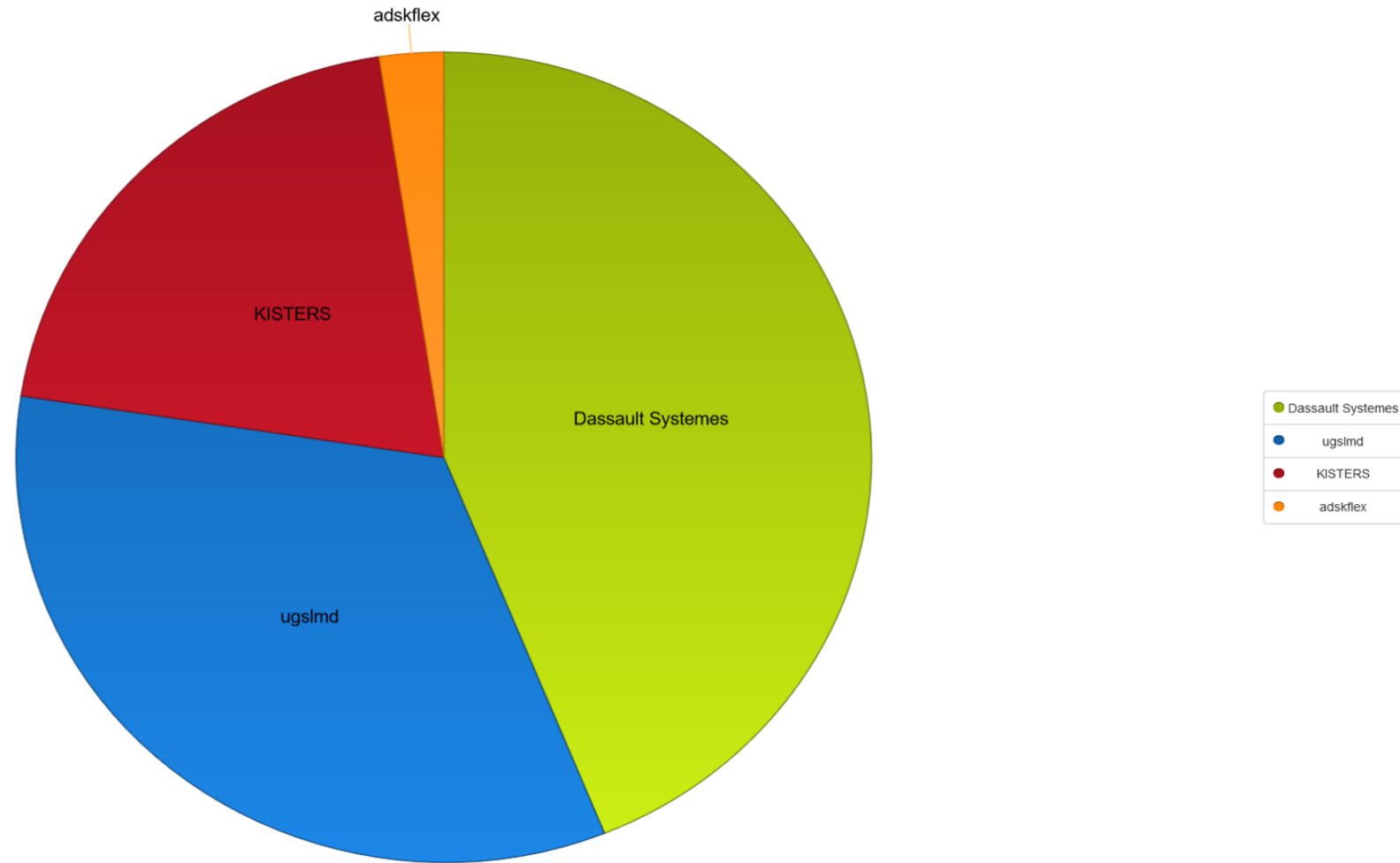


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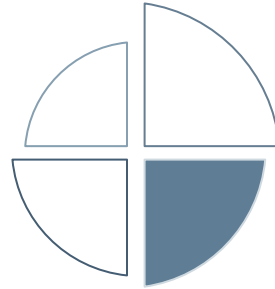




# Concurrent Network Licenses - Denials Graphs



# Chapter 02



## “New World” Trends



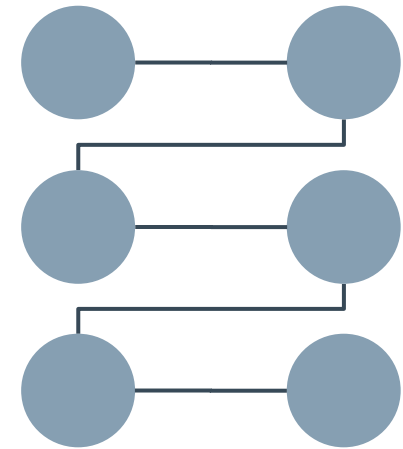
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# IMPORTANT POINTS

1. New Trends in Specialty Licensing
  - a. Move to the Cloud
  - b. Move to Subscriptions
  - c. Move to fully Named User models
2. Autodesk Named vs Autodesk Flex - How to reconcile?
3. Are Dongles still alive?
4. DLL monitoring as the new thing?
5. Web-based Applications
6. More Comfort and Less Visibility, is it worth the higher price tag?



# New Trends in Specialty Licensing

- Move to Cloud
  - Vendor hosted Licensing system on Vendor Cloud
  - Dassault, Altair
- Move to Subscriptions
  - Push away from the Perpetual Model
  - Autodesk
- Move to Fully Named Users
  - Dassault, Autodesk
- Combination of all the above
- Reduced control
- Reduced visibility
- Vendor proprietary reporting
- Limited in functionality



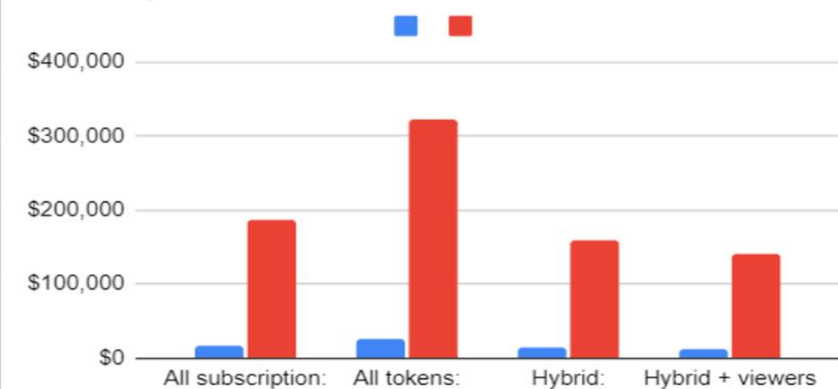


# Autodesk Named vs Autodesk Flex

- Likely a result of customer pushback
- Interesting replacement of the “Old” Network concurrent model
- Small Organization - Either model can work
- Medium Organization - Hybrid model is most efficient
- Depends on type of work done with Autodesk products

Total users:	100									
<b>Users blend:</b>	<b>Percent</b>	<b>#</b>	<b>Days/month</b>	<b>Days</b>	<b>Use Tokens</b>			<b>Monthly</b>	<b>Annual</b>	<b>Difference</b>
Viewers	15%	15	No edits	5	75		<b>All subscription:</b>	\$15,500	\$186,000	0.00%
Ocational	25%	25	Less 7 days/M	5	125		<b>All tokens:</b>	\$26,833	\$321,993	173.11%
Significant	25%	25	More 7 days/M	15	375		<b>Hybrid:</b>	\$13,290	\$159,480	85.74%
Full time	35%	35	More 7 days/M	22	770		<b>Hybrid + viewers</b>	\$11,794	\$141,525	76.09%
Monthly sub:	<b>\$155.00</b>									
24H	<b>\$19.95</b>									

Monthly and Annual



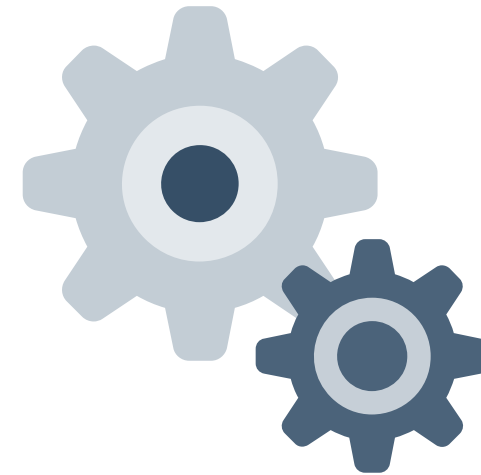
# Are Dongles still alive?

- Dongles still pose a significant presence on the Specialty License market
- Advantage - Best security
- Disadvantage - Hard to manage
- Very prevalent in the Application portfolio in Automotive Industry
- Recommendation
  - Don't overlook Dongle movement inside your organization
  - Don't underestimate lost Dongles



# DLL Monitoring - New thing?

- Removal of centralized License Servers reduces visibility
- Specialized Applications functionality
  - used to be trackable as individual license features
- How to acquire the visibility again?
- Applications tend to utilize/load certain DLLs when accessing certain functions
- Loaded DLLs can be tracked and paired up with the primary application executable
- DLLs Usage can be paired up with individual licenses





# Web-Based Applications

- Cloud Computing Power
- High-Bandwidth Broadband Access
- Potential to move Applications to the Browser completely
- Fully Cross-platform solution
- How to keep the visibility?
- Tracking URLs vs tracking Executables vs tracking Central License Servers



# Summary

- Clear trends to reduce visibility and control
- Offering (at first glance) hassle free solutions
  - License always available
  - Little need to analyze data
  - Little manpower required to manage the licenses
- Ultimate results
  - High Cost
  - Little Optimization
- Worth the price tag?
  - Potentially - Yes
  - Most likely - No



# Chapter 03



## Compliance



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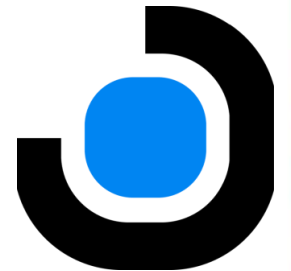
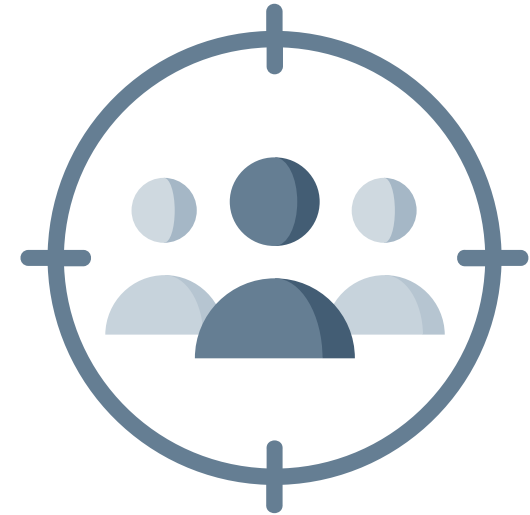
# IMPORTANT POINTS

1. How critical is compliance?
2. What are the compliance scopes?
3. How to use authorization rules?
4. User education - Always critical, always underestimated



# How critical is compliance?

- Standard SAM World - Compliance trumps Cost Optimization
- Specialty License World - Compliance overlooked in favor of Cost Optimization
- Compliance - Hidden Cost
- Specialty License Tools - Not built to measure Compliance directly
- Don't underestimate Compliance measurements
- Don't wait till the Audit is at your doorstep
- CRITICAL



# What are compliance scopes?

- Defined by contract
- Various metrics, depending on vendor, can overlap
- Geographical
  - Per Site, Per Country, Per Region, Multi-Regional
- Location Entity
  - User or Device or Both?
  - Important to be defined in contract
  - COVID changed the landscape
  - Older contracts are not ready for the New World
- Employee Status
  - Internal Employee vs External Employee
- Dongles
  - Lost and Found Dongles



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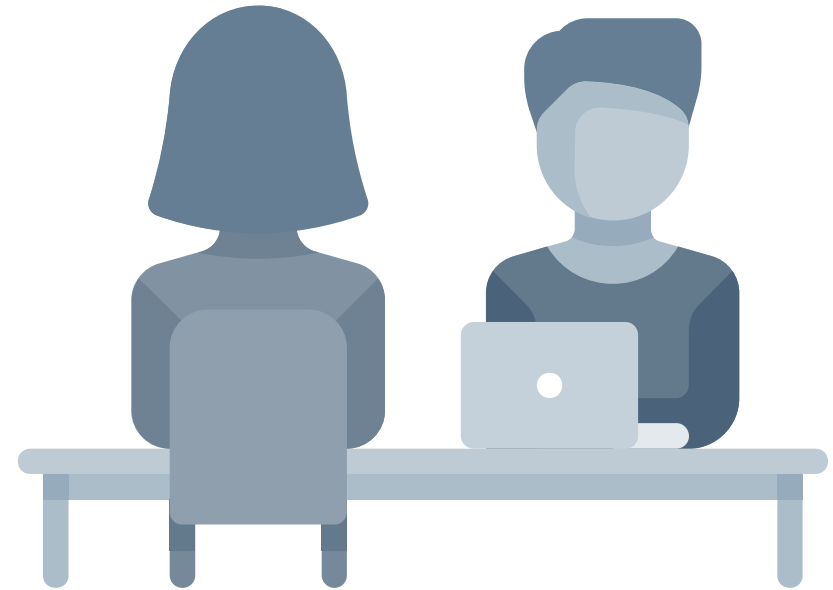
# How to use Authorization rules?

- Varied by License Manager technology
- Premise is always the same
- Understanding environment
- Understanding contractual obligations
- Preparing a proper diagram
  - Who is not allowed to use what and where?
- Defining Groups of
  - Users, IPs, Workstations
- Defining Groups of
  - Licenses by Scope
- Defining Rules
  - Best practice - What's not allowed is prohibited



# User Education

- Educate, Educate, Educate
- The system is only as strong as its weakest link
- Give users reason not to try to circumvent the rules



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# The End

# Q&A



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