Agenda

Why cost analysis?

What are the challenges?

Where to start?

Examples

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Why Cost Analysis?

- Prepare for Vendor Negotiations

- Streamline analysis

- Reduce preparation time

- Identify cost associated with optimization

Challenges

Time

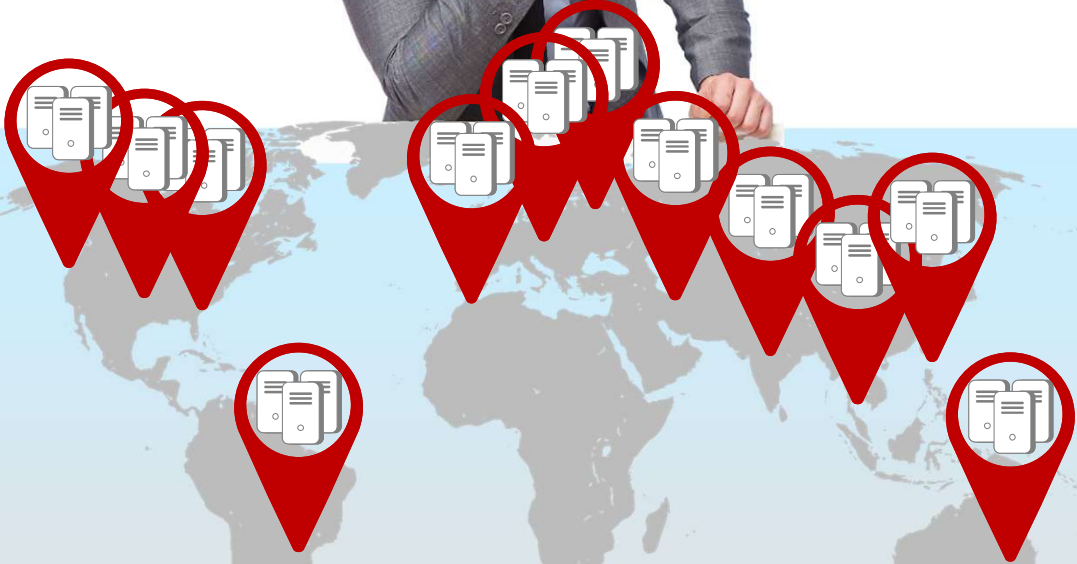- Not enough resources to prepare 6-12 months in advance for all contracts
- Turnover

Visibility

- Limited to no visibility into what you own vs what is installed or being used
- Limited visibility into who is using what

Where to start?

Optimize first

Review overall portfolio

- Identify license shortages that may be affecting efficiency
- Identify over licensing

Competitive alternatives

- Are you using competitive products that may be consolidated
- Inquire with users
- Preferences, ease of use
- Is it a training gap for preference?

Inquire with business units

Why did they request licenses but do not appear to be using?

LICENSE TYPES

Approach by License Type

Concurrent

- View overall usage trends and patterns
- License Efficiency
- Zero Usage

Named User

- Days Since Last Used
- Reallocate licenses
- Frequency of reassignment
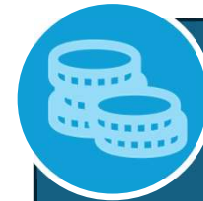
Consumption
– PPU/Tokens/CostperDay

- Review spend down rate
- Monthly trend
- Options to optimize
- Camping

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FORECAST TO ACTUAL

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Forecast to Actual

- If you have forecast by department/cost center/group
  - Review forecast to actual
  - Follow up with groups to determine why forecast off
    - Will it continue
    - Modify future forecast

- Determine needs for renewals

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Forecast to Actual – Cost Impact

License Forecast to Actual

Date Range: 10/1/2021 - 12/31/2021

Department	Product	SubProduct	Forecasted License	Cost of Forecasted License	Dept Usage	Dept Usage Cost	Delta to Forecast	Cost of Delta	Utilization
Dept: 75489	CATIA RD	AB3	60	$247,422.66	52	$214,432.97	8	$32,989.69	86.7%
Dept: 82999	CATIA RD	AB3	10	$41,237.11	8	$32,989.69	2	$8,247.42	80.0%
Dept: 88145	CATIA RD	AB3	5	$20,618.56	3	$12,371.14	2	$8,247.42	60.0%
Dept: 90112	CATIA RD	AB3	20	$82,474.23	24	$98,969.08	-4	-$16,494.85	120.0%
Dept: 92104	CATIA RD	AB3	5	$20,618.56	1	$4,123.71	4	$16,494.85	20.0%
Dept: 95351	CATIA RD	AB3	5	$20,618.56	1	$4,123.71	4	$16,494.85	20.0%
Dept: 85562	CATIA RD	AB3	250	$1,030,927.83	226	$931,958.76	24	$98,969.07	90.4%
Total: Forecast to Actual								$164,948.46	

Forecast to Actual – Performance by Product

Status Label: 🟢 Good (+/-10% of Allocation) ⚠️ Watching (between +/-11% &+/-50% of Allocaton) ✕ Action Needed (> +/- 50% Allocation)

Stat	Top Software by Cost (Monthly) 2024-Feb | Group: Research & Development						Monthly Trend
✕	Product : CATIA RD Sub Product : AB3						
	Max Avail	Plan	Actual	Gap	Plan/ Actual %	Peak Distinct User Denials	
	389	58	188	-130.00	324.14%	0	

Stat	Top Software by Cost (Monthly) 2024-Feb | Group: Production Engineering						Monthly Trend
✕	Product : CATIA RD Sub Product : AB3						
	Max Avail	Plan	Actual	Gap	Plan/ Actual %	Peak Distinct User Denials	
	389	27	88	-61.00	325.93%	0	

Forecast to Actual- Cost Impact All Products

License Allocation Utilization by Group
2024-Feb

| Group	Cost of Gap
Research & Development	-$581,880.00
Information Systems	
Powertrain	-$138,756.00
Production Development	-$17,904.00
Production Engineering	-$273,036.00
Performance Engineering	-$179,040.00
Supplier Development	-$13,428.00
Vehicle Engineering	-$2,246,952.00

License Efficiency

License Efficiency Chart

Presents cummulative frequency chart for concurrent license checkouts. It also shows number of licenses being used within 95 and 99 percent of the time.

Query Period: 2023-01-01 00:00 to 2023-06-23 06:00

License Efficiency Chart: CATIA RD

Application Name	Max Available	Max In Use	Within 99% use [1]	Within 95% use [1]
AB3	389	292	268	246

X or more Licenses Concurrently Checked Out
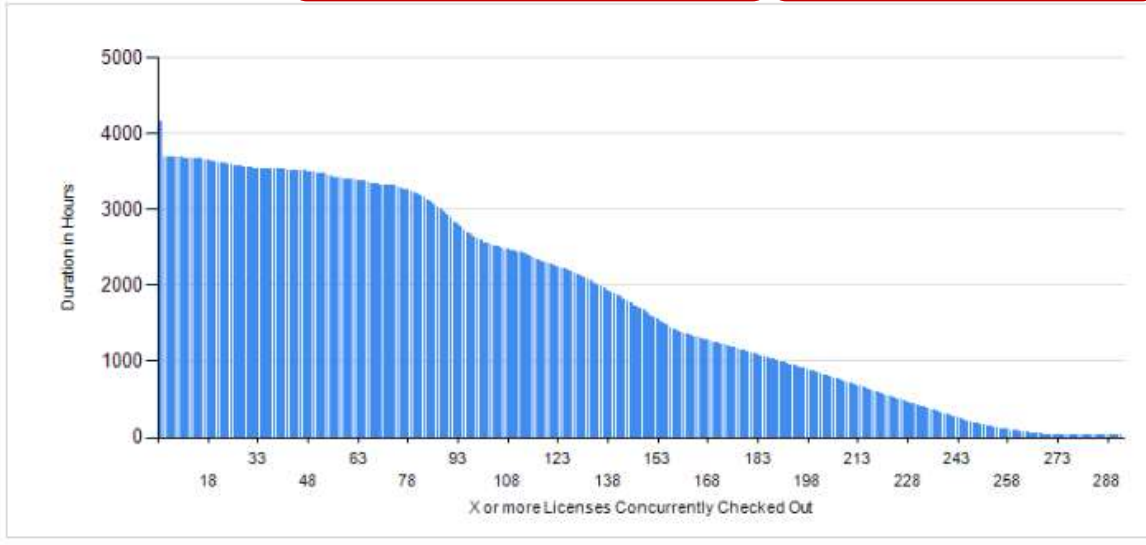
Minimum # of Licenses [2]	Duration in Hours	Duration in % of Total
292	0.06	0.00 %
291	0.14	0.00 %
290	0.31	0.01 %
289	0.53	0.01 %
288	0.81	0.02 %
287	1.58	0.04 %
286	2.14	0.05 %
285	2.75	0.07 %
284	3.89	0.09 %
283	5.36	0.13 %
282	6.56	0.16 %
281	8.03	0.19 %
280	9.67	0.23 %
279	10.94	0.26 %
278	12.61	0.30 %
277	14.56	0.35 %
276	17.83	0.43 %
275	20.69	0.50 %
274	23.78	0.57 %
273	26.89	0.65 %
272	29.61	0.71 %
271	32.58	0.78 %
270	36.44	0.88 %
269	40.39	0.97 %
268	44.36	1.07 %
267	48.67	1.17 %
266	53.19	1.28 %
265	58.67	1.41 %
264	65.19	1.57 %
263	70.61	1.70 %
262	76.69	1.84 %

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License Efficiency

License Efficiency Chart: zncmslicna01p;actifyd

Application Name	Max Available	Max In Use	Within 99% use [1]	Within 95% use [1]
SpinFire11	500	190	170	156
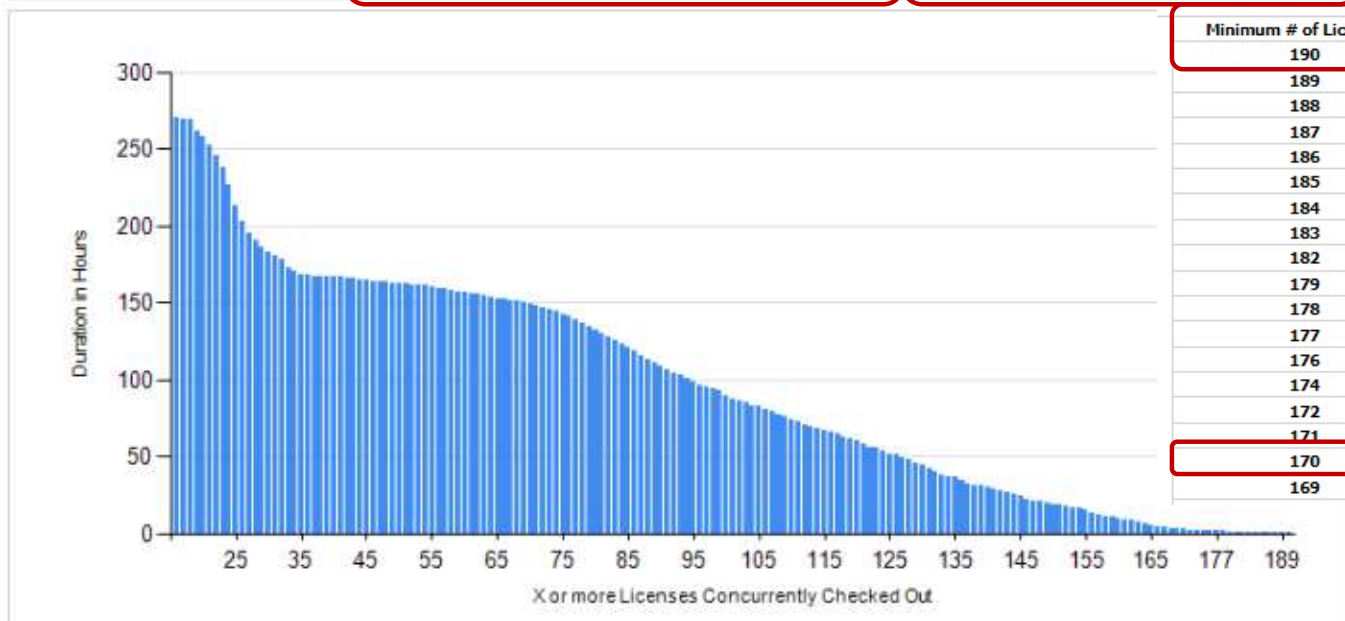
Minimum # of Licenses [2]	Duration in Hours	Duration in % of Total
190	0.08	0.03 %
189	0.25	0.09 %
188	0.33	0.12 %
187	0.42	0.15 %
186	0.50	0.18 %
185	0.83	0.31 %
184	0.92	0.34 %
183	1.00	0.37 %
182	1.17	0.43 %
179	1.33	0.49 %
178	1.67	0.62 %
177	1.92	0.71 %
176	2.00	0.74 %
174	2.25	0.83 %
172	2.42	0.89 %
171	2.58	0.95 %
170	2.75	1.01 %
169	3.04	1.12 %

License Efficiency – with Potential Savings

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License Cost Savings based on Efficiency

Calculates the potential savings for 365 days based on 100, 99, or 95 Percentile of License Efficiency.

Report Period: *from 2023-01-01 to 2023-12-31*

Type	Product	Application Name	Max Available	99%[1] Max in Use	99% Delta[2]	Unit Cost[3]	Savings[4]
Feature	Catia	AB3	389	268	121	$2,870	$347,270
	Actify	Spinfire11	500	170	330	$1,750	$577,500
	Grand Total						**$924,770**

1) Max In Use - minimum of percent (95, 99 or 100%) of the time, the license usage is at or below the reported value.

2) Delta - Difference between the Max Available license and License within Usage Percentile.

3) Unit Cost - Price per license per day based on configured in the License Cost Catalog.

4) Savings - Calculated Total Cost based on the Delta and Unit Cost.

Finding your ITAM Oasis

License Efficiency – with Cost Impact

ANSYS Product	M&S	Max Available	Business As Usual - Zero Impact		Open iT Recommendations - Efficiency Numbers			
			Max in Use	Potential Savings	99%	Potential Savings	95%	Potential Savings
ANSYS Mechanical Enterprise PrepPost	$4,500.00	27	22	$22,500.00	15	$54,000.00	12	$67,500.00
ANSYS HPC Pack	$4,600.00	18	12	$27,600.00	8	$46,000.00	7	$50,600.00
ANSYS DesignModeler	$950.00	13	7	$5,700.00	5	$7,600.00	4	$8,550.00
ANSYS SpaceClaim	$1,450.00	8	8	$0.00	6	$2,900.00	5	$4,350.00
ANSYS CFD PrepPost	$3,900.00	7	7	$0.00	4	$11,700.00	3	$15,600.00
ANSYS Mechanical Enterprise	$10,700.00	5	4	$10,700.00	3	$21,400.00	3	$21,400.00
ANSYS Mechanical Enterprise Solver	$8,350.00	5	4	$8,350.00	3	$16,700.00	3	$16,700.00
ANSYS CFD Enterprise Solver	$10,600.00	4	3	$10,600.00	2	$21,200.00	2	$21,200.00
ANSYS Maxwell	$11,200.00	3	2	$11,200.00	2	$11,200.00	1	$22,400.00
ANSYS Additive Print	$19,100.00	2	0	$38,200.00	0	$38,200.00	0	$38,200.00
ANSYS Optimetrics (For HFSS, Q3D Extractor, Maxwell)	$3,050.00	2	2	$0.00	2	$0.00	1	$3,050.00
ANSYS CFD Enterprise	$12,250.00	1	1	$0.00	1	$0.00	1	$0.00
ANSYS CFD Premium Solver	$9,650.00	1	1	$0.00	1	$0.00	1	$0.00
ANSYS HFSS	$12,340.00	1	0	$12,340.00	0	$12,340.00	0	$12,340.00
ANSYS Mechanical CFD	$15,520.00	1	1	$0.00	1	$0.00	1	$0.00
ANSYS Siwave	$17,400.00	1	0	$17,400.00	0	$17,400.00	0	$17,400.00
ANSYS HPC Workgroup 32	$14,430.00	1	1	$0.00	1	$0.00	1	$0.00
				$164,590.00		$260,640.00		$299,290.00

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VENDOR SUMMARY

Summary to Detail- Portfolio Usage Review

Summary Page to Detail Page

Vendor License: ansyslmd
Query Period: 2024-03-01
to 2024-03-31

Application Name	Max Available	Max in Use	Denials
SpaceClaim Modeling	109	94	0
SpaceClaim Additive Print	100	0	0
PrePost	100	0	0
Par Process	2200	0	0
VKI Library	250	0	0
CFX Pre	250	0	0
Composite PrepPost	143	0	0
HPC	128	64	0
HPC Pack	14	14	34
Distrib Engine	75	0	0
ROM Builder	100	0	0
ANSYS Mechanical Enterprise	66	54	53
CFD Base	49	37	0
CFD Ployflow	45	35	0
CFD Preppost	55	45	0
CFD Preppost Pro	55	45	0
CFD Solver Level 1	47	36	0
CFD Solver Level 2	35	30	0
CFD Solver Level 3	25	19	0

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Summary to Detail- Portfolio Usage Review

Summary Page to Detail Page

Vendor License: ansyslmd
Query Period: 2024-03-01
to 2024-03-31

Application Name	Max Available	Max in Use	Denials	Annual Cost	Total Contract
SpaceClaim Modeling	109	94	0	$ 2.887	$ 314.647
SpaceClaim Additive Print	100	0	0	$ 3,298	$ 329,833
PrePost	100	0	0	$ 1,662	$ 166,167
Par Process	2200	0	0	$ -	$ -
VKI Library	250	0	0	$ -	$ -
CFX Pre	250	0	0	$ -	$ -
Composite PrepPost	143	0	0	$ 3,647	$ 521,473
HPC	128	64	0	$ 1,500	$ 192,000
HPC Pack	14	14	34	$ 8,827	$ 123,573
Distrib Engine	75	0	0	$ -	$ -
ROM Builder	100	0	0	$ -	$ -
ANSYS Mechanical Enterprise	66	54	53	$ 18,923	$ 1,248,940
CFD Base	49	37	0	$ 6,667	$ 326,667
CFD Ployflow	45	35	0	$ 12,917	$ 581,250
CFD Preppost	55	45	0	$ 8,150	$ 448,250
CFD Preppost Pro	55	45	0	$ 15,223	$ 837,283
CFD Solver Level 1	47	36	0	$ 15,850	$ 744,950
CFD Solver Level 2	35	30	0	$ 16,416	$ 574,572
CFD Solver Level 3	25	19	0	$ 17,383	$ 434,583
				$	6,844,188

Summary to Detail- Portfolio Usage Review

Summary Page to Detail Page

Vendor License: ansyslmd
Query Period: 2024-03-01
to 2024-03-31

Application Name	Max Available	Max in Use	Denials	Annual Cost	Total Contract	Delta	Potential Savings
SpaceClaim Modeling	109	94	0	$ 2.887	$ 314.647	15	$ 43.300
SpaceClaim Additive Print	100	0	0	$ 3,298	$ 329,833	100	$ 329,833
PrePost	100	0	0	$ 1,662	$ 166,167	100	$ 166,167
Par Process	2200	0	0	$ -	$ -	2,200	$ -
VKI Library	250	0	0	$ -	$ -	250	$ -
CFX Pre	250	0	0	$ -	$ -	250	$ -
Composite PrepPost	143	0	0	$ 3,647	$ 521,473	143	$ 521,473
HPC	128	64	0	$ 1,500	$ 192,000	64	$ 96,000
HPC Pack	14	14	34	$ 8,827	$ 123.573	0	$ -
Distrib Engine	75	0	0	$ -	$ -	75	$ -
ROM Builder	100	0	0	$ -	$ -	100	$ -
ANSYS Mechanical Enterprise	66	54	53	$ 18,923	$ 1,248,940	12	$ 227,080
CFD Base	49	37	0	$ 6,667	$ 326,667	12	$ 80,000
CFD Ployflow	45	35	0	$ 12,917	$ 581,250	10	$ 129,167
CFD Preppost	55	45	0	$ 8,150	$ 448,250	10	$ 81,500
CFD Preppost Pro	55	45	0	$ 15,223	$ 837,283	10	$ 152,233
CFD Solver Level 1	47	36	0	$ 15,850	$ 744,950	11	$ 174,350
CFD Solver Level 2	35	30	0	$ 16,416	$ 574,572	5	$ 82,082
CFD Solver Level 3	25	19	0	$ 17,383	$ 434,583	6	$ 104,300
					$ 6,844,188		$ 2,187,485 32%

Summary to Detail- Portfolio Usage Review

Summary Page to Detail Page

Vendor License: ansyslmd
Query Period: 2024-03-01
to 2024-03-31

Application Name	Max Available	Max in Use	Denials	Annual Cost	Total Contract	Delta	Potential Savings	Keep 1	Potential Savings
SpaceClaim Modeling	109	94	0	$ 2,887	$ 314,647	15	$ 43,300	14	$ 40,413
SpaceClaim Additive Print	100	0	0	$ 3,298	$ 329,833	100	$ 329,833	99	$ 326,535
PrePost	100	0	0	$ 1,662	$ 166,167	100	$ 166,167	99	$ 164,505
Par Process	2200	0	0	$ -	$ -	2,200	$ -	2,199	$ -
VKI Library	250	0	0	$ -	$ -	250	$ -	249	$ -
CFX Pre	250	0	0	$ -	$ -	250	$ -	249	$ -
Composite PrepPost	143	0	0	$ 3,647	$ 521,473	143	$ 521,473	142	$ 517,827
HPC	128	64	0	$ 1,500	$ 192,000	64	$ 96,000	63	$ 94,500
HPC Pack	14	14	34	$ 8,827	$ 123,573	0	$ -	-1	$ (8,827)
Distrib Engine	75	0	0	$ -	$ -	75	$ -	74	$ -
ROM Builder	100	0	0	$ -	$ -	100	$ -	99	$ -
ANSYS Mechanical Enterprise	66	54	53	$ 18,923	$ 1,248,940	12	$ 227,080	11	$ 208,157
CFD Base	49	37	0	$ 6,667	$ 326,667	12	$ 80,000	11	$ 73,333
CFD Ployflow	45	35	0	$ 12,917	$ 581,250	10	$ 129,167	9	$ 116,250
CFD Preppost	55	45	0	$ 8,150	$ 448,250	10	$ 81,500	9	$ 73,350
CFD Preppost Pro	55	45	0	$ 15,223	$ 837,283	10	$ 152,233	9	$ 137,010
CFD Solver Level 1	47	36	0	$ 15,850	$ 744,950	11	$ 174,350	10	$ 158,500
CFD Solver Level 2	35	30	0	$ 16,416	$ 574,572	5	$ 82,082	4	$ 65,665
CFD Solver Level 3	25	19	0	$ 17,383	$ 434,583	6	$ 104,300	5	$ 86,917
					$ 6,844,188		$ 2,187,485 32%	$133,350	$ 2,054,135 30%

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ZERO USAGE

Identify Zero Usage

Vendor License (Product):   licsrv2 - Mathworks

UNUSED FEATURES

licsrv2 - Mathworks	Max Available	Max in Use	Unit Price M&S	Potential Savings
Compiler (ID=123456)	1	0	$3,808.00	$3,808.00
Control_Toolbox (ID=123456)	2	0	$3,808.00	$7,616.00
Control_Toolbox (ID=123456_R2014a)	1	0	$1,030.40	$1,030.40
Control_Toolbox (ID=123456_R2020b)	1	0	$1,030.40	$1,030.40
Control_Toolbox (ID=101112_R2008b)	1	0	$1,030.40	$1,030.40
Control_Toolbox (ID=789101)	3	0	$1,030.40	$3,091.20
Control_Toolbox (ID=789101_R2020b)	2	0	$1,030.40	$2,060.80
Embedded_IDE_Link (ID=131415)	2	0	$4,928.00	$9,856.00
Embedded_IDE_Link (ID=789101)	1	0	$4,928.00	$4,928.00
Embedded_Target_c2000 (ID=131415)	1	0	$4,928.00	$4,928.00
Excel_Link (ID=131415)	1	0	$0.00	$0.00
Filter_Design_Toolbox (ID=123456)	1	0	$0.00	$0.00
Fixed_Point_Toolbox (ID=123456)	1	0	$2,912.00	$2,912.00
Fixed_Point_Toolbox (ID=789101)	1	0	$2,912.00	$2,912.00
Fuzzy_Toolbox (ID=131415)	1	0	$0.00	$0.00
Identification_Toolbox (ID=131415_R2019b)	2	0	$1,030.40	$2,060.80
Identification_Toolbox (ID=131415_R2020b)	2	0	$1,030.40	$2,060.80
Identification_Toolbox (ID=123456)	1	0	$1,030.40	$1,030.40
Identification_Toolbox (ID=789101)	1	0	$1,030.40	$1,030.40
Instr_Control_Toolbox (ID=789101)	1	0	$0.00	$0.00
MATLAB_Builder_for_Java (ID=123456)	1	0	$3,808.00	$3,808.00
MATLAB_Coder (ID=789101)	2	0	$5,824.00	$11,648.00
MATLAB_Link_for_CCS (ID=131415)	1	0	$4,928.00	$4,928.00
NCD_Toolbox (ID=131415)	3	0	$0.00	$0.00
Neural_Network_Toolbox (ID=123456)	1	0	$0.00	$0.00
Optimization_Toolbox (ID=131415)	3	0	$1,120.00	$3,360.00
Optimization_Toolbox (ID=131415_R2019b)	1	0	$1,120.00	$1,120.00
Optimization_Toolbox (ID=131415_R2020b)	1	0	$1,120.00	$1,120.00
Optimization_Toolbox (ID=123456)	1	0	$1,120.00	$1,120.00
Optimization_Toolbox (ID=101112)	1	0	$1,120.00	$1,120.00
Savings				**79,609.60**

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CONSUMPTION BASED

Consumption Based Analysis- Total

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This preview may be up to 132 days

Country
All

Application Name
All

Date Range
1/17/2023 — 10/13/2023

Days Used
179

Peak Usage
43

Checkouts
2

Max Term Licenses
0

Peak Usage by Country

Countries shown (left to right): IN, US, CO, AE, GB, SA, CA, QA, AU

Peak Usage by Day

● Perpetual License Usage ● Checkouts ● Term License Usage - - - Max of covered licenses

Date range: Apr 2023 (18–30), May 2023 (1–31), Jun 2023 (1–6)

Usage by Product and Country

Product ID	Application	Country	Usage Date	Peak Pooled Usage	Checkouts	Peak Usage	Covered Perpetual Licenses	Term License Usage
1000	MicroStation	AE	04/18/2023	0	0	0		0
2009	SACS Offshore Structure	AE	04/18/2023	2	0	2		0
2010	SACS Offshore Structure Advanced	AE	04/18/2023	1	0	1		0
2835	Structural SELECT Entitlements	AE	04/18/2023	4	0	4		0
1602	Structural WorkSuite	AE	04/18/2023	4	0	4		0
2009	SACS Offshore Structure	AU	04/18/2023	1	0	1		0
2010	SACS Offshore Structure Advanced	AU	04/18/2023	1	0	1		0
2011	SACS Offshore Structure Ultimate	AU	04/18/2023	1	0	1		0
1602	Structural WorkSuite	AU	04/18/2023	0	0	0		0
2293	AutoPLANT Modeler	CO	04/18/2023	2	0	2		0
1887	Bentley Raceway and Cable	CO	04/18/2023	3	0	3		0

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Consumption Based Analysis- by Location

Consumption Based Potential Optimization

Consumption Based Analysis-Total Cost

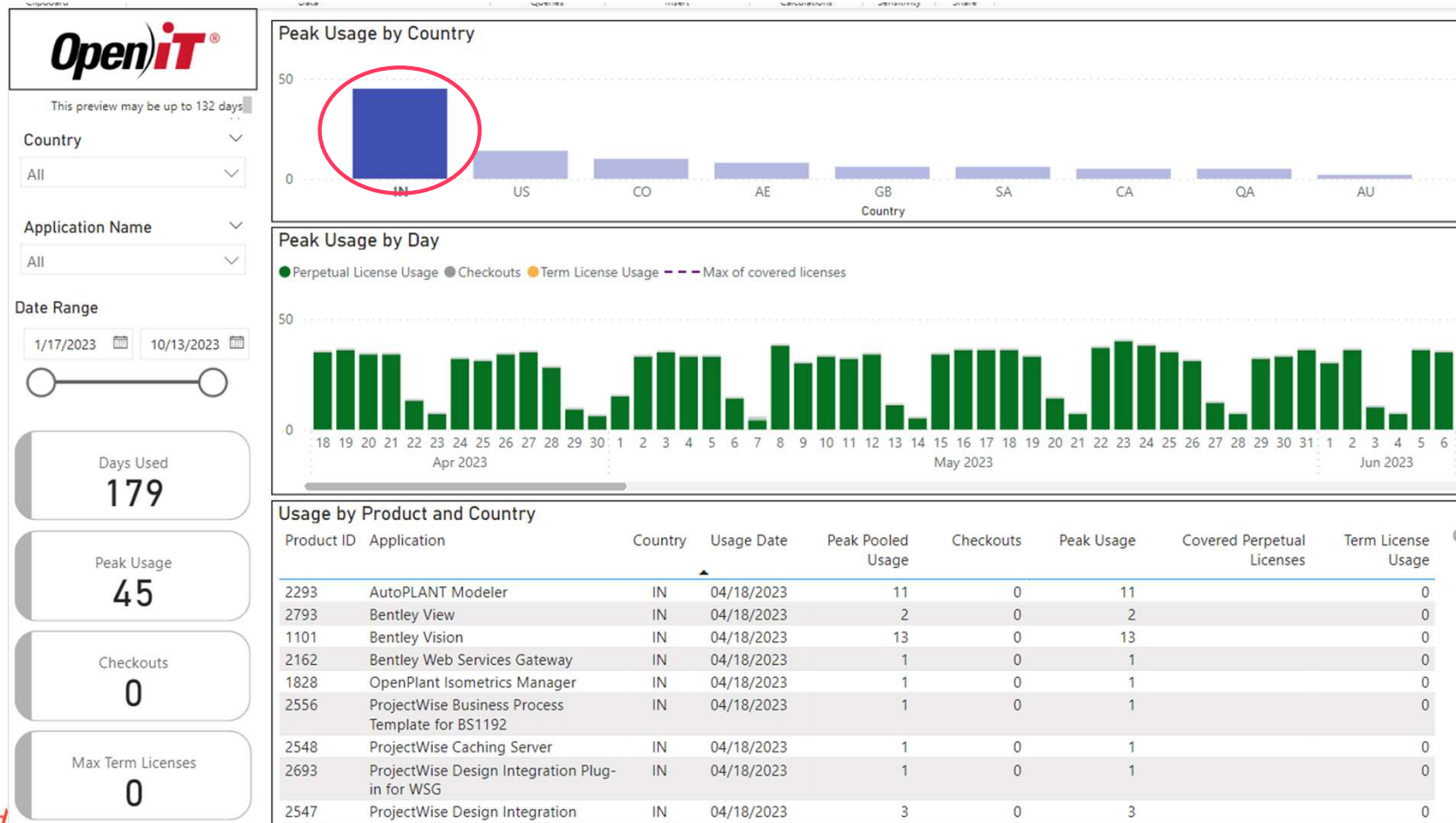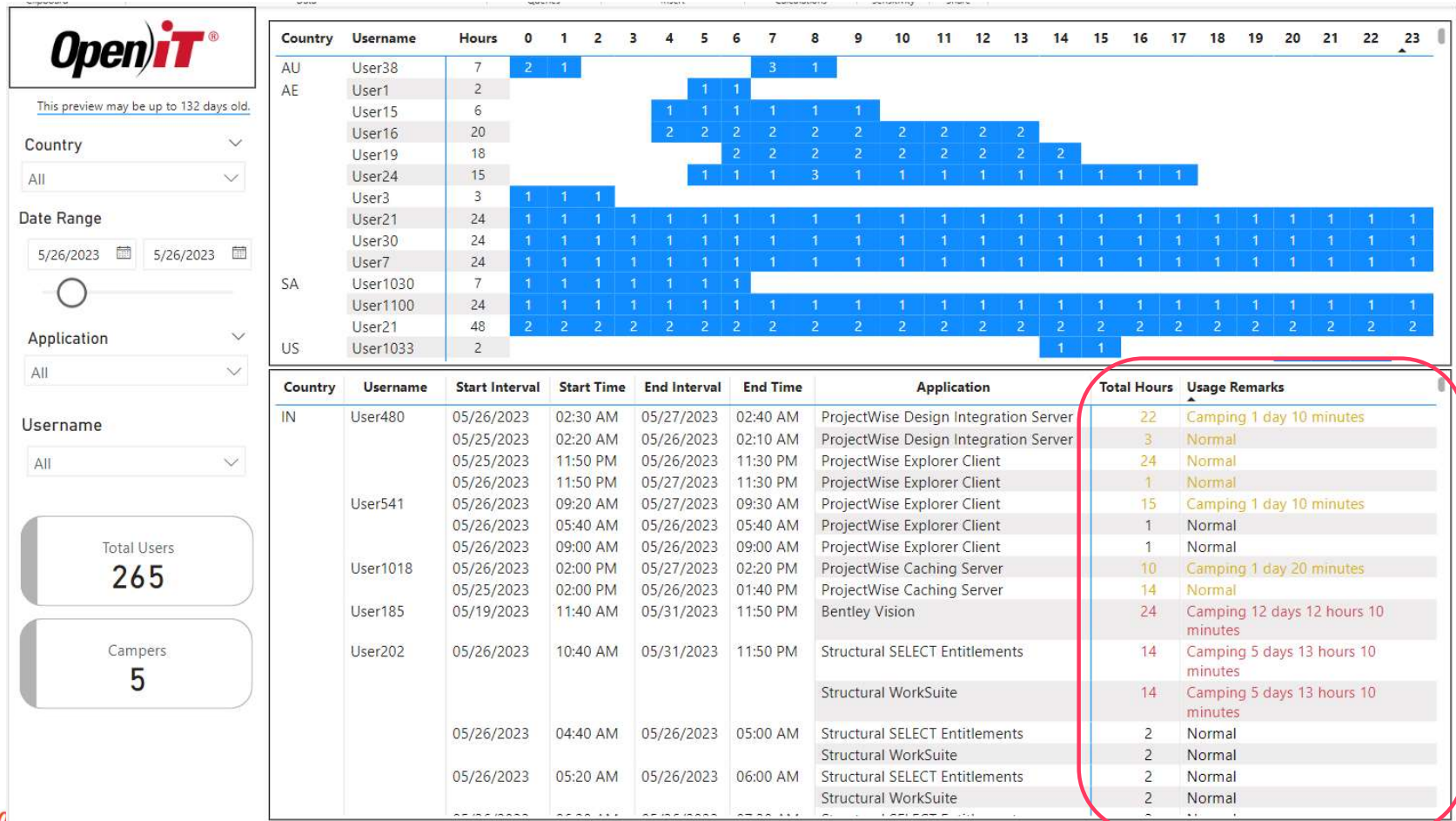# Consumption Based Analysis- by Location

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COST BY LOCATION

May 7-9, 2024 The M Resort Las Vegas, NV

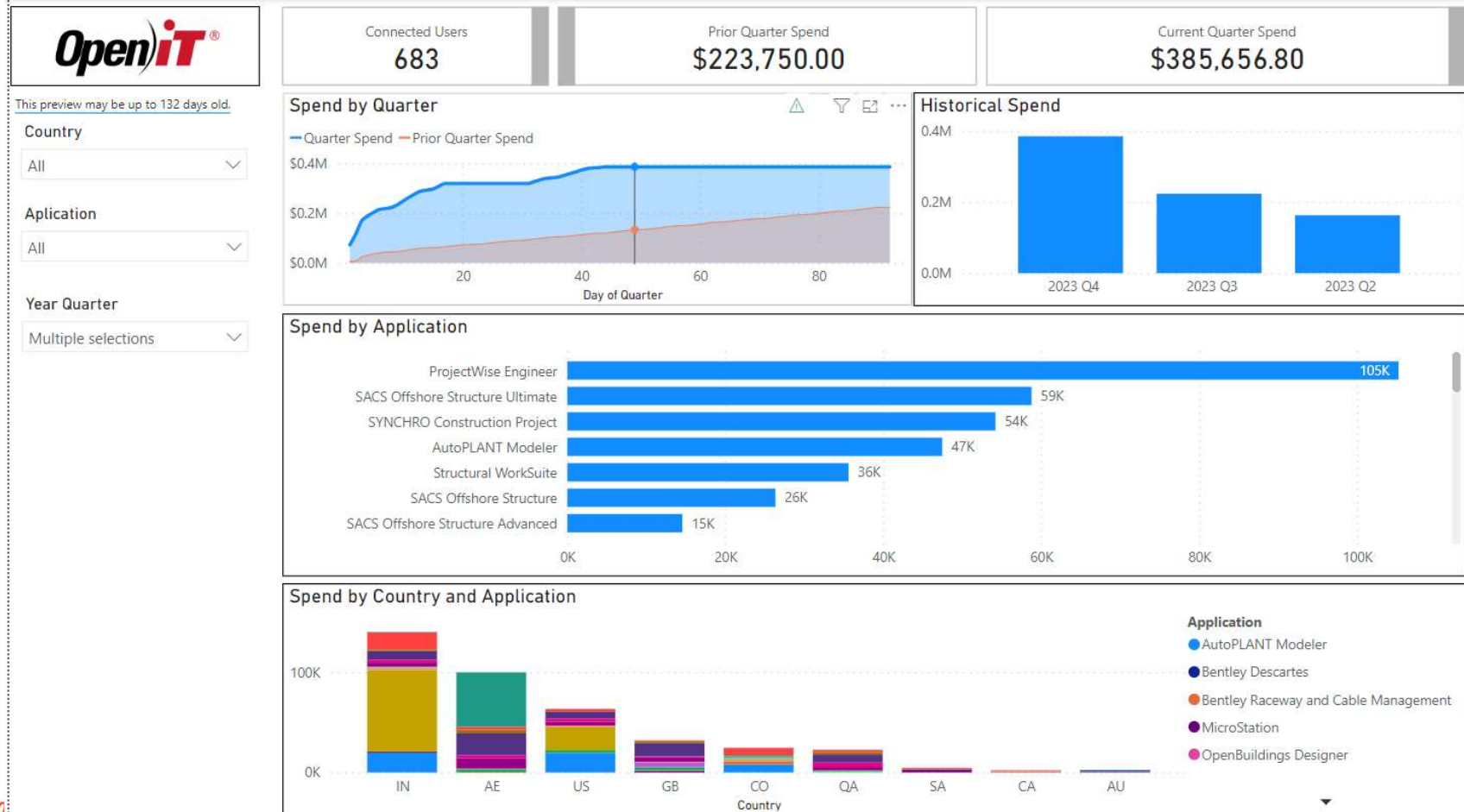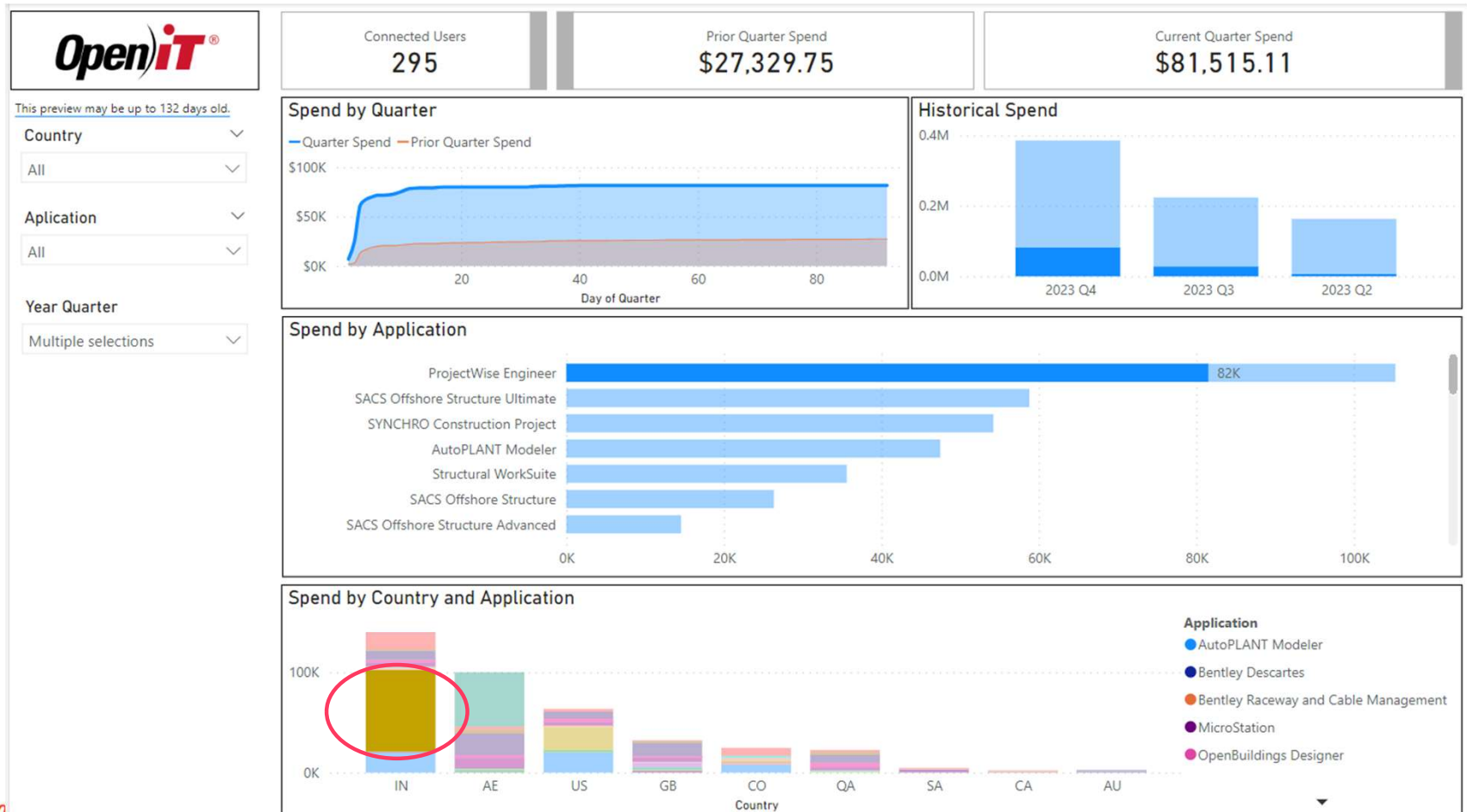# Cost by Vendor/Location

ENGINEERING SOFTWARE COST ALLOCATION
LOCATION SUMMARY USAGE REPORT

Period: 2023-06-01 00:00:00 to 2023-12-31 00:00

Report generation date: 2024-04-01

		Bentley PPU/DAY	Autodesk DUH 1D	Hexagon ET 1M	ANSYS ET 1D	Dassault ET 1D
TOTAL ELAPSED TIME - Hours		671,127.87	1,080,921.05	157,028.79	49,590.40	566,436.16
TOTAL COST		$ 1,105,312.50	$ 916,577.23	$ 943,238.49	$ 682,837.20	$ 236,956.69
ID	**LOCATION**					
314	US	$ 74,901.35	$ 27,904.40	$ 454,900.07	$ 935.37	
345	Indonesia	$ 687.69	$ 1,087.48	$ 5.68		
365	UAE	$ 24,384.14	$ 89,024.53		$ 1.39	$ 237.22
487	Denmark	$ 4,360.39	$ 3,709.75	$ 6,050.04	$ 280,722.84	
359	Canada	$ 3,549.35	$ 10,938.05	$ 10,424.87		
167	Australia	$ 21,857.27	$ 7,947.69	$ 5,784.26	$ 7,902.31	$ 2,317.19
111	France	$ 57,187.21	$ 129,868.35	$ 23,028.04	$ 37,271.19	$ 25,364.49
200	India	$ 55,694.90	$ 78,898.62	$ 31,511.99	$ 13,527.87	
175	Canada	$ 7,890.76	$ 59,956.83	$ 86,215.88	$ 47,059.95	$ 111.89
193	Italy	$ 1,126.60	$ 50,858.72	$ 26,330.79		

OPTIMIZATION

Results of Harvesting

Savings $ 147,059 in 6 months

	Jan	Feb	Mar	or	May	Jun
Tokens Used	276,680.54	242,627.70	228,304.00	221,704.02	200,420.16	168,532.12
Cost	$246,245.68	$215,938.65	$203,190.56	$197,316.58	$178,373.94	$149,993.59

2021

Finding your ITAM Oasis

IAITAM

Open iT
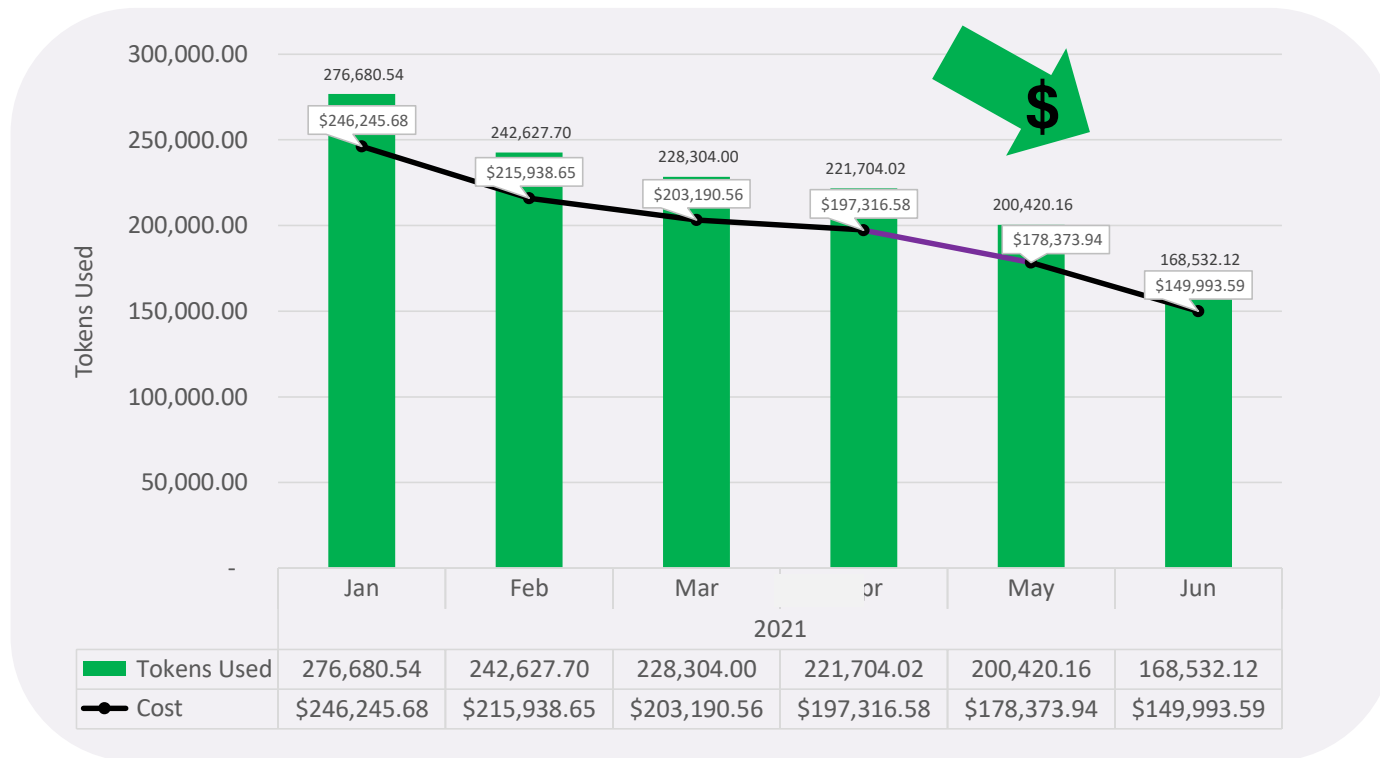
Usage Data is Not Enough

Provides comprehensive understanding of overall expenditure

Helps make informed decisions on budget allocation and resource management

Allow more accurate assessment of ROI, optimization strategies and identifying potential savings
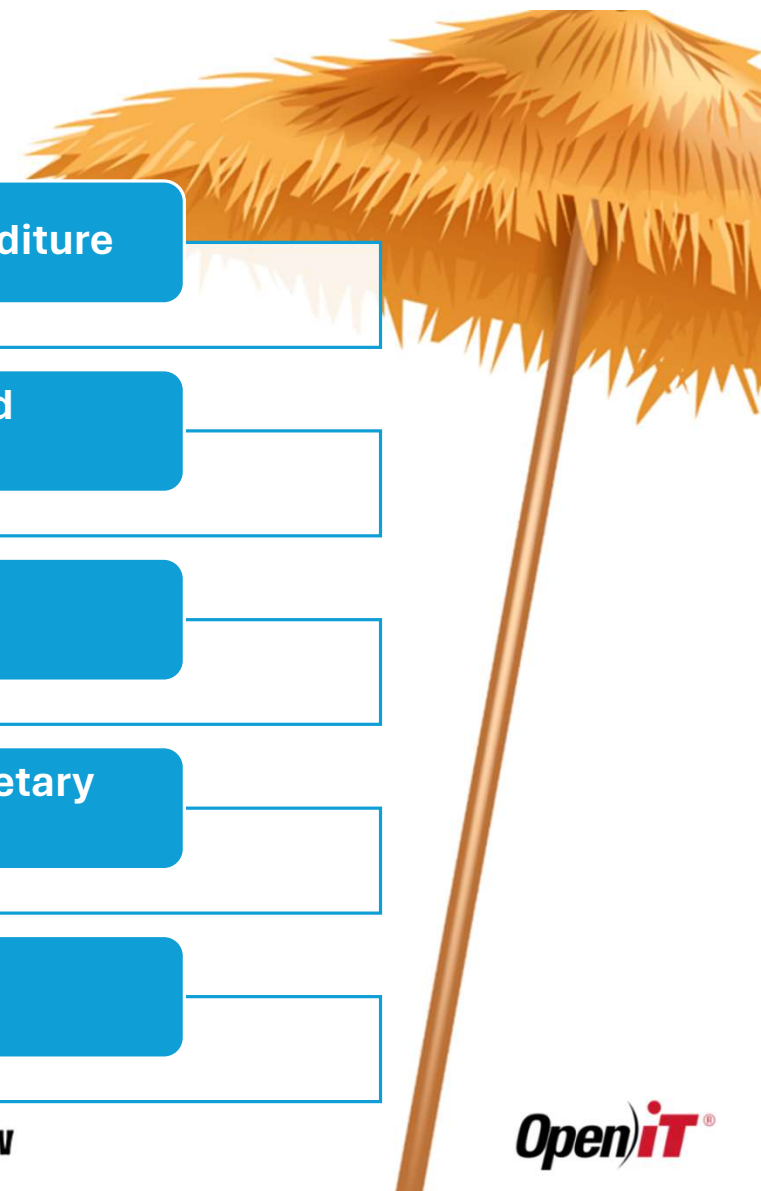
Enables organizations to align software usage with budgetary constraints for efficient allocation of resources

Facilitates overall cost-effective software investments

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BOOTH # 41

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**Contracts, Chargeback, Cost Optimization:
3 Critical Cs of License Management**
Speaker: Angelo Carlo Pacheco
Thu, May 9, 2024 @ 11:15:00 AM
Room: Modena 1

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