IBM Power Systems Private Cloud Solution

Shared Utility Capacity / Enterprise Pools 2.0 Overview

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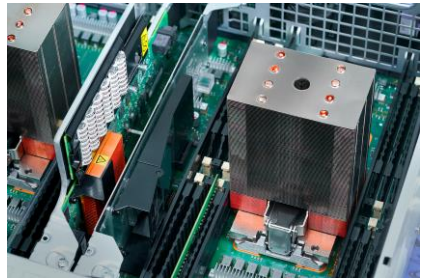



What clients are asking for in a private cloud

Infrastructure scalability and agility

- ✓ Ability to quickly add and scale compute and/or storage resources

Total cost savings

- ✓ Compared to both Traditional IT infrastructure and public cloud

Cloud experience with Central IT control

- ✓ Enable Central IT to provide a well governed on-premises cloud operating experience

Improved time to market

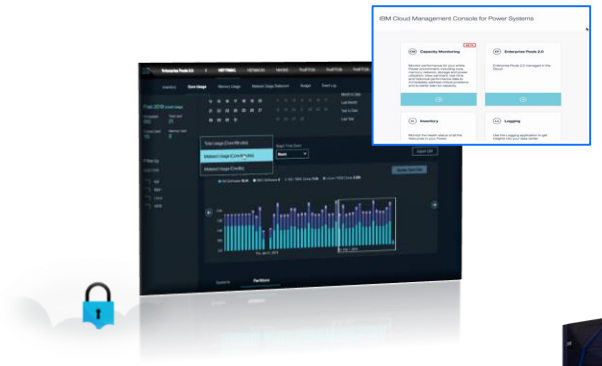
- ✓ Accelerate application development and delivery

* IDC - Insights into Private Cloud Deployment Drivers and Infrastructure Demands Dec. 2019

Power Private Cloud with Shared Utility Capacity

Cloud-like agility and economics with leadership business continuity and security

Expanding Power Enterprise Pools 2.0



Power S922 & S924

Power E950

Power E980

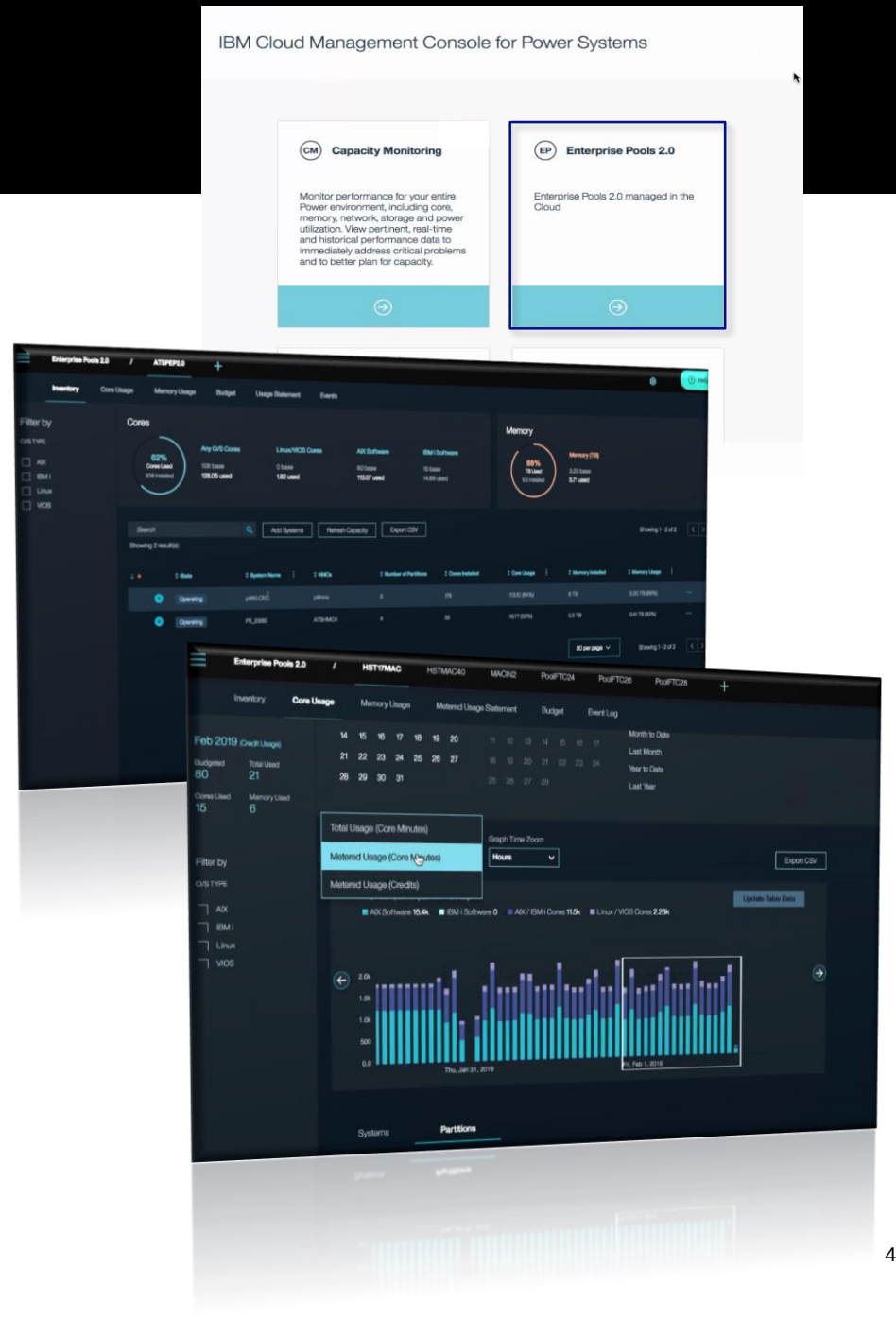
- Deploy a Power Private Cloud infrastructure with *Shared Utility Capacity* across a collection of Power E980, E950, S922 or S924 systems*
- *New, minimal system purchase/lease option as low as 1 core, 256GB active,* with *pay-per-use* on balance of *fully active capacity by the minute*
- Industry-leading monitoring and metering via *IBM Cloud Management Console* with *granular, real-time & historical views* of consumption by resource by VM & system
- IBM Proactive Support
- Private Cloud Capacity Assessment & Implementation Services

** One server machine type per pool. Multiple pools may be managed by a single instance of a Cloud Management Console*

Power Enterprise Pools 2.0 Highlights

The Enterprise Pools 2.0 application provides features to:

- Start a pool
- Add Power E980, or E950, or S922 and S924 systems to a pool
- Set a monthly budget for Metered Capacity consumption
- Analyze total or Metered minutes, Capacity Credits, core, memory, or operating system resource usage
- Monitor Base and Metered Capacity used within a pool over time
- Analyze trends within a pool and adjust time scale to review by minutes, hours, days, weeks, or month
- Drill down within a selected time period to see more detailed usage by VM
- Show Capacity Credits consumed and breakdown usage by resource within a pool
- Display Capacity Credit balance, budget status, Metered resource rate table, and Capacity Credit purchase history
- Monitor and maintain monthly Capacity Credit budget
- Tailor alerts and thresholds for a pool based upon budget and resource consumption

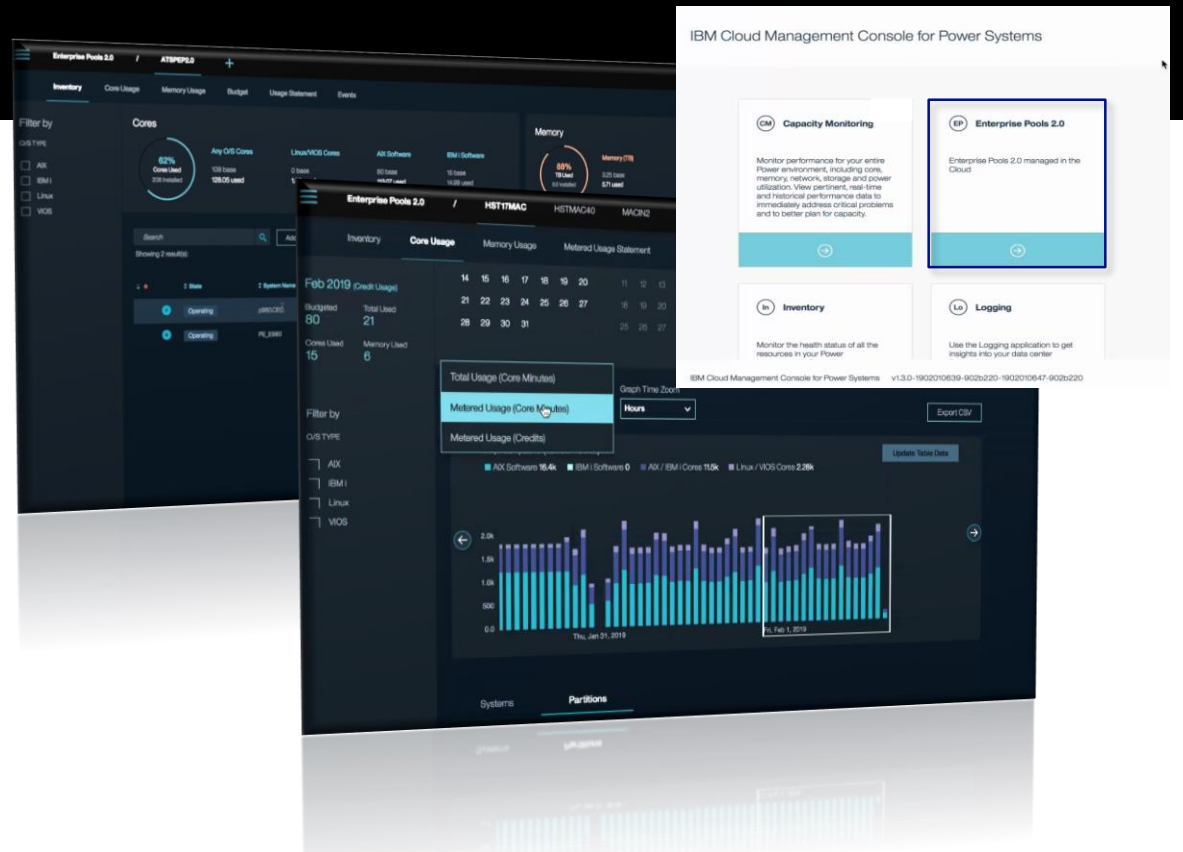


Shared Utility Capacity

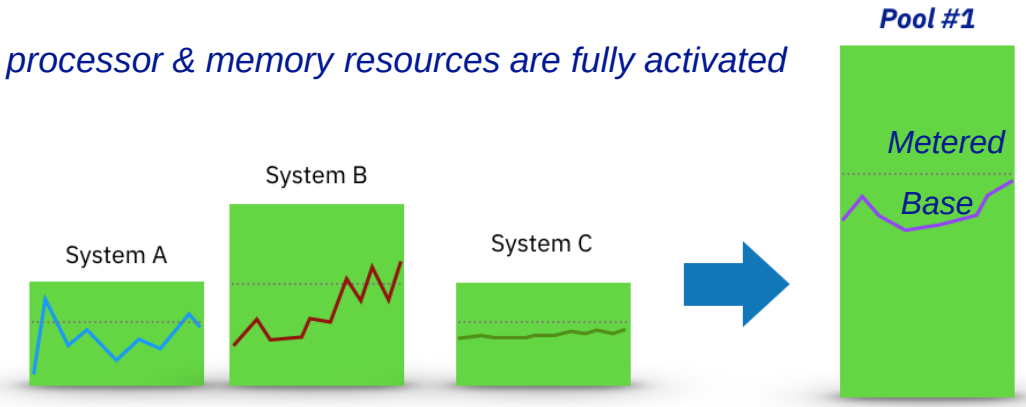
Fully active, metered by the minute

Deploy *Shared Utility Capacity* across a pool of Power E980, E950 or S922/S924 systems

- One machine type supported per pool
- Purchase servers with Base capacity
- Variable demand addressed by purchasing Capacity Credits for Metered capacity
- IBM Cloud Management Console with HMC automatically monitors and debits against Capacity Credits based on actual usage by the minute



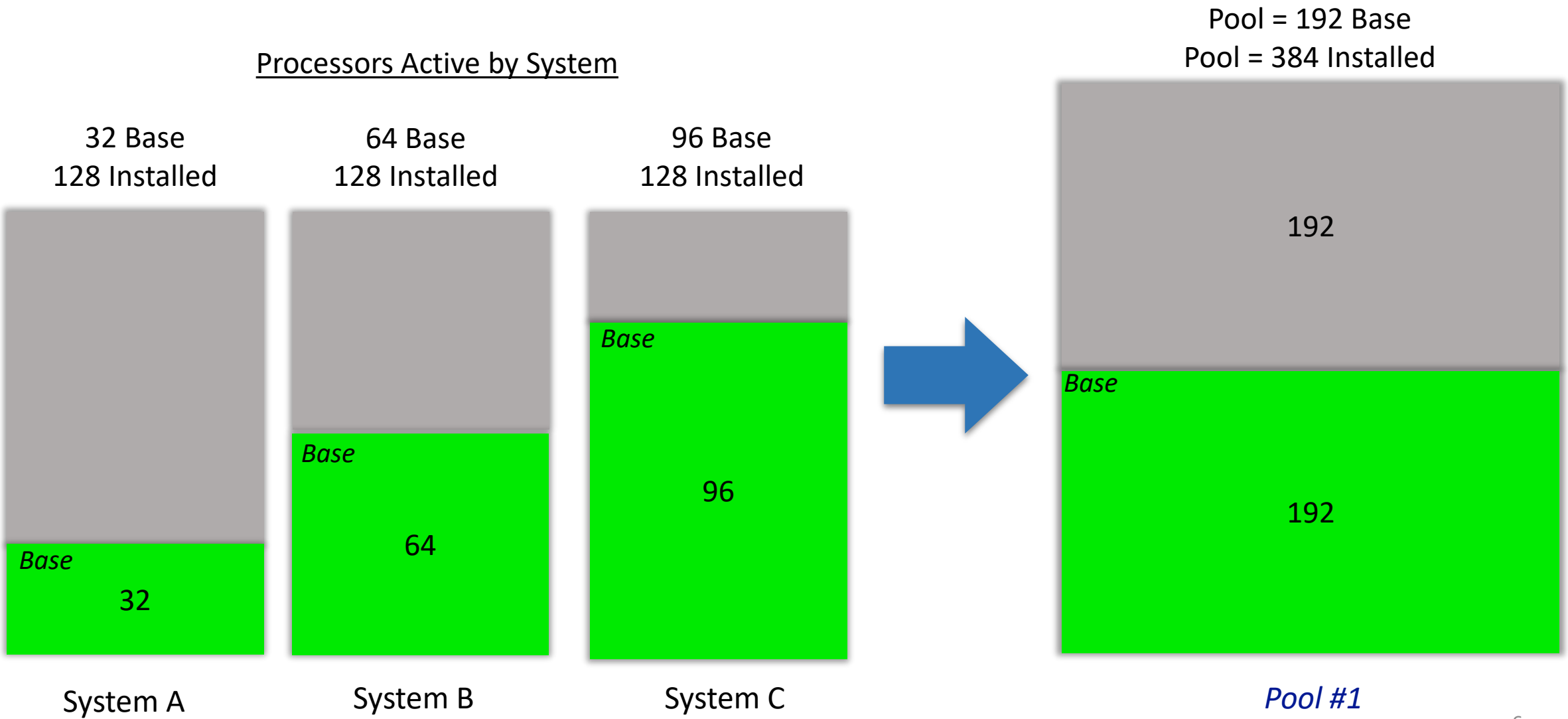
All processor & memory resources are fully activated



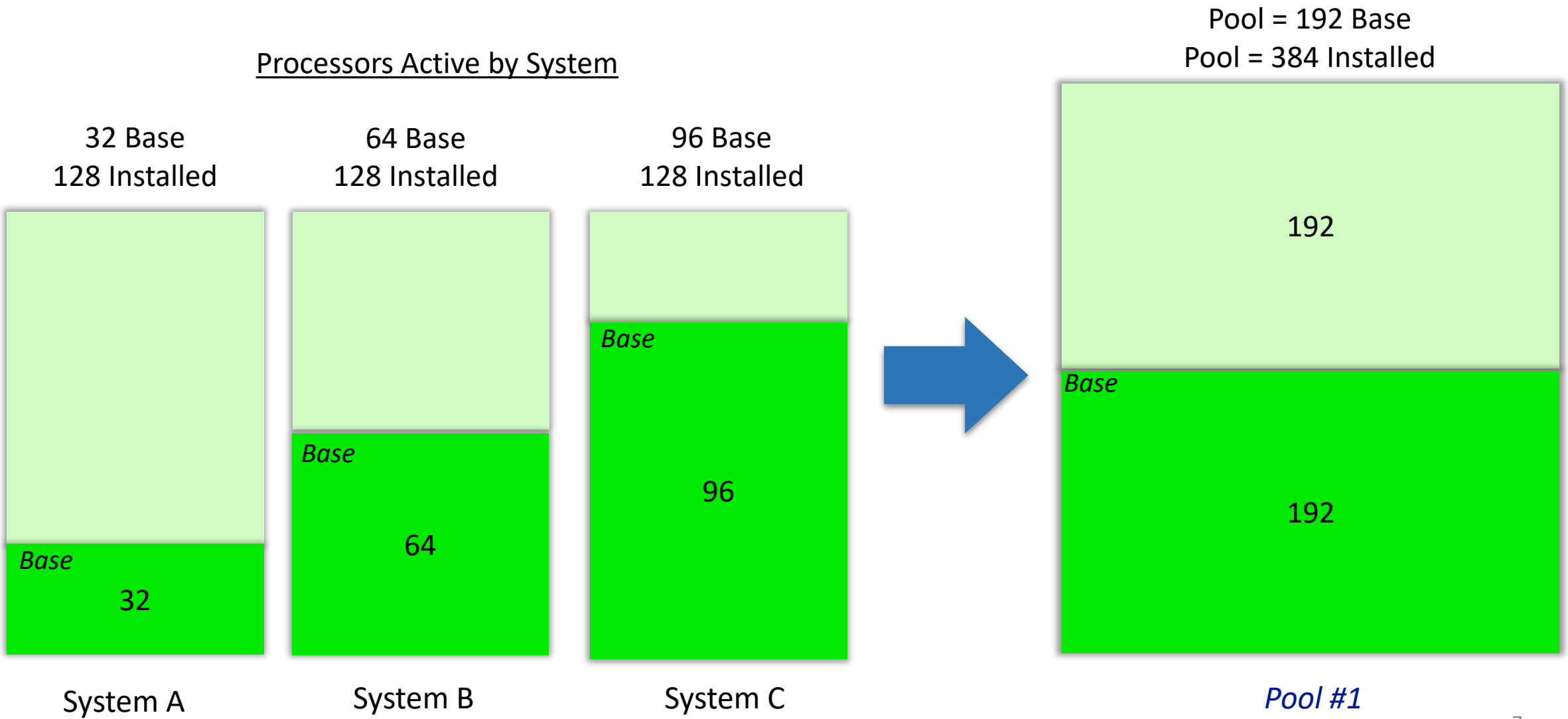
Base and Metered Capacity

- Processor activations
- Memory activations on E950/E980
- AIX and IBM i licenses

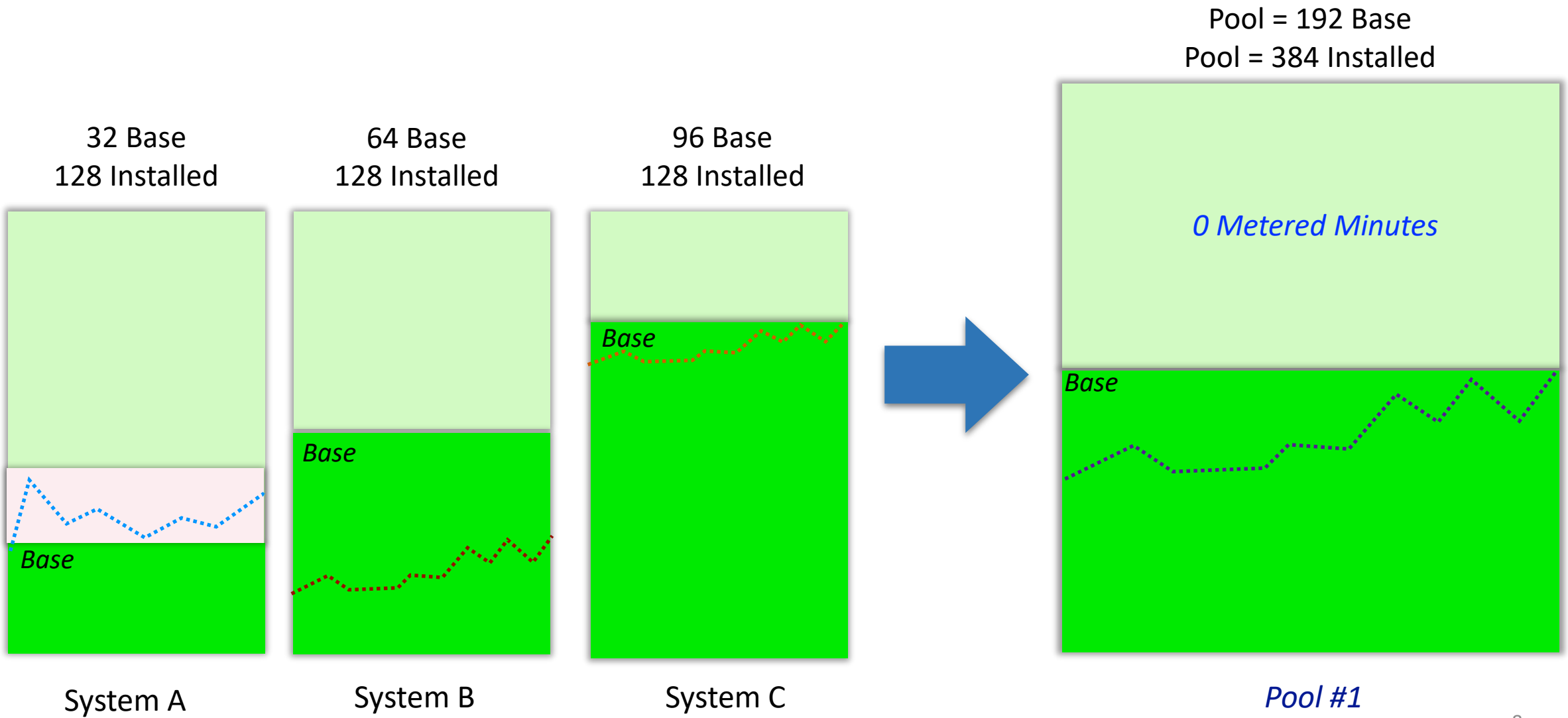
Client purchases Power E980 systems with new Base Processor & Memory Activation resources.



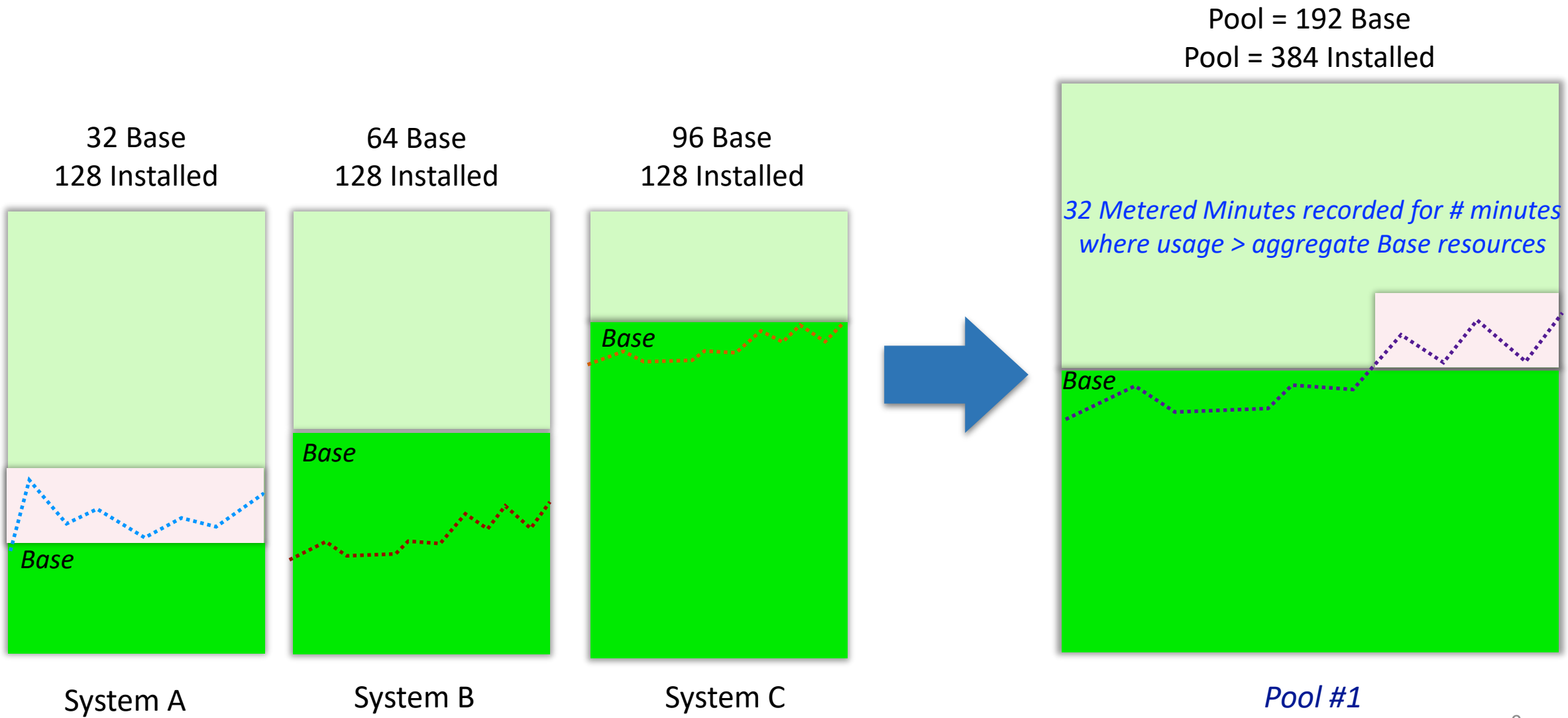
All remaining resources are activated when a Pool is started.
Resource usage is metered for minutes above the pool's aggregate Base resources



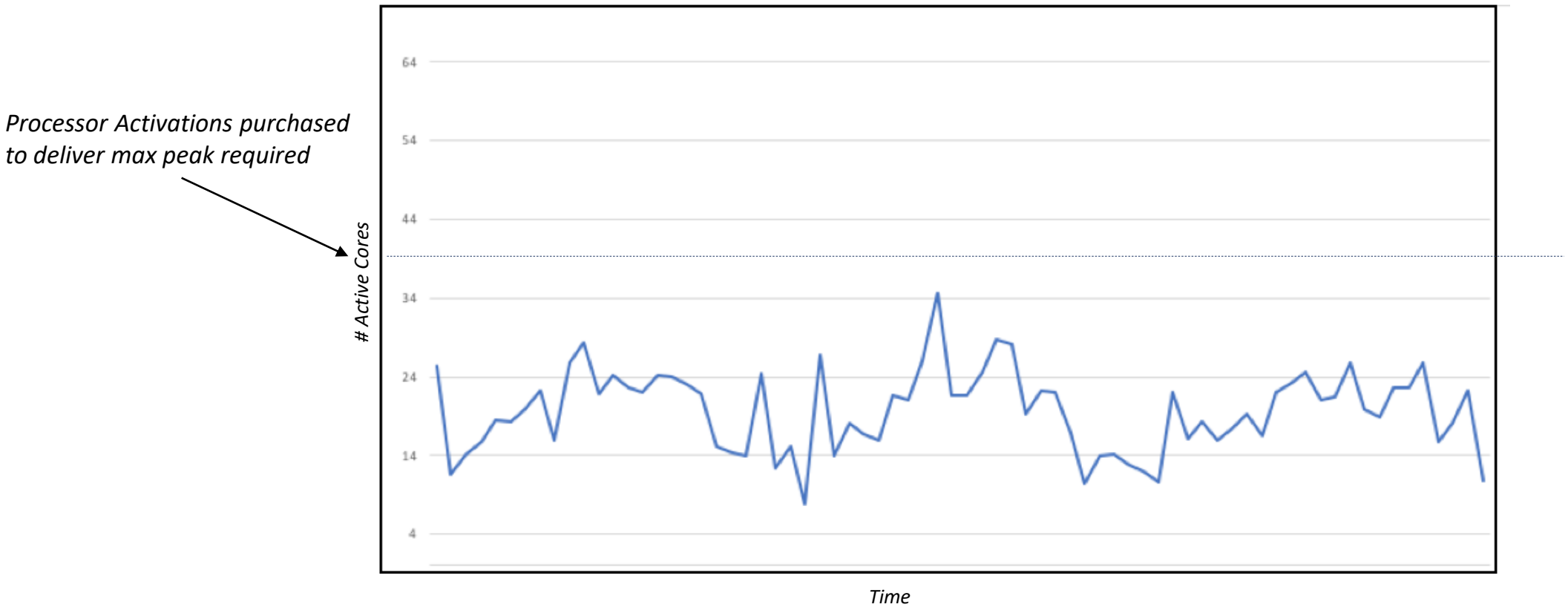
Processor Example - Pool has 1 system using more than its Base Processor Activations, but another system is idle, using less than its Base Processor resources at the same time, so 0 Metered resource usage is recorded



Processor Example - Processor usage > the aggregate of Base Processor Activations across the pool, so Metered Processor Capacity minutes are recorded and Metered Capacity Credits are debited accordingly

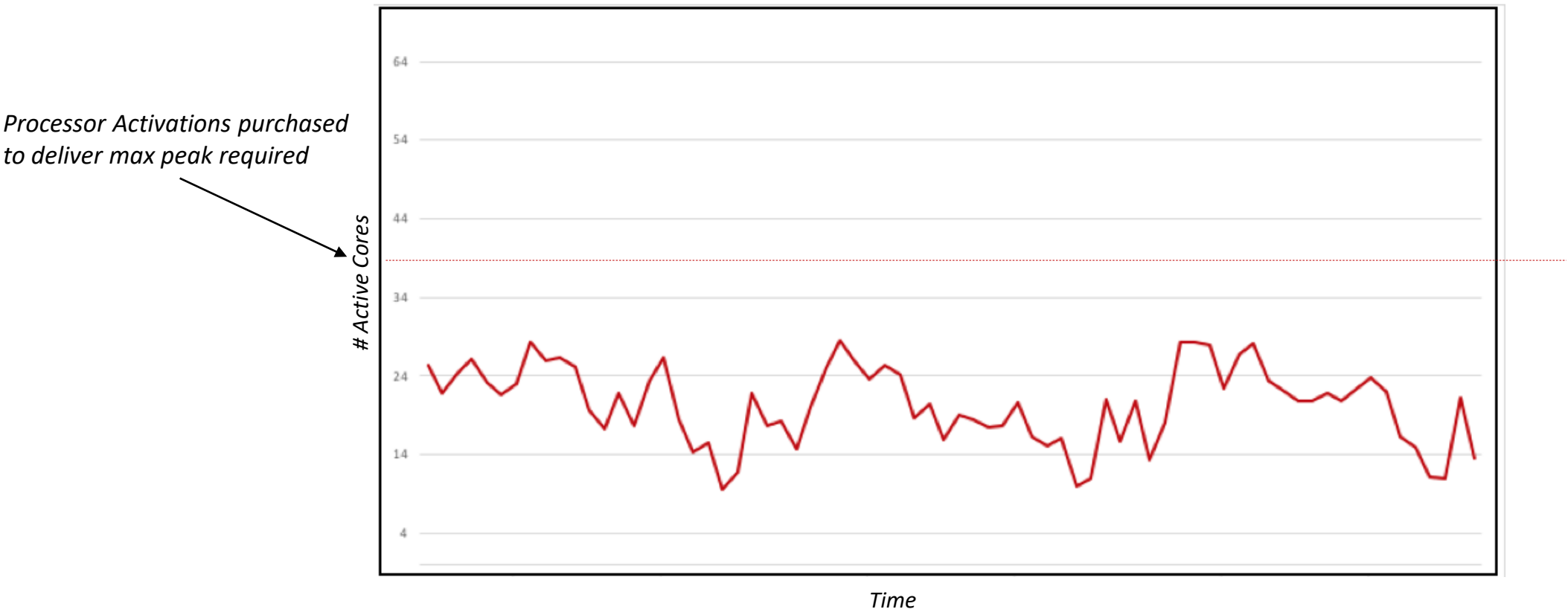


System A : Max # cores for peak utilization over sample time period



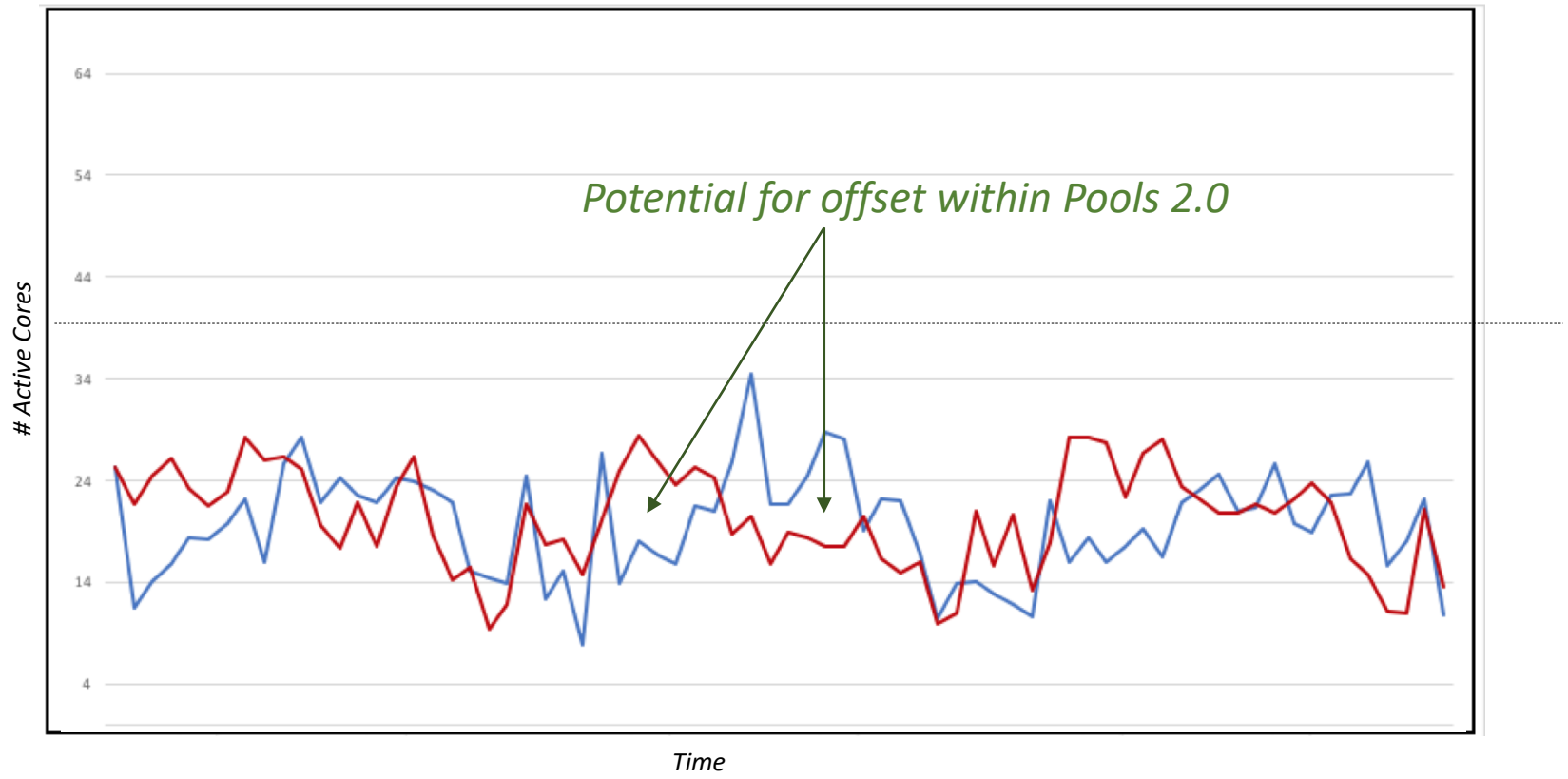
System A

System B : Max # cores for peak utilization over sample time period

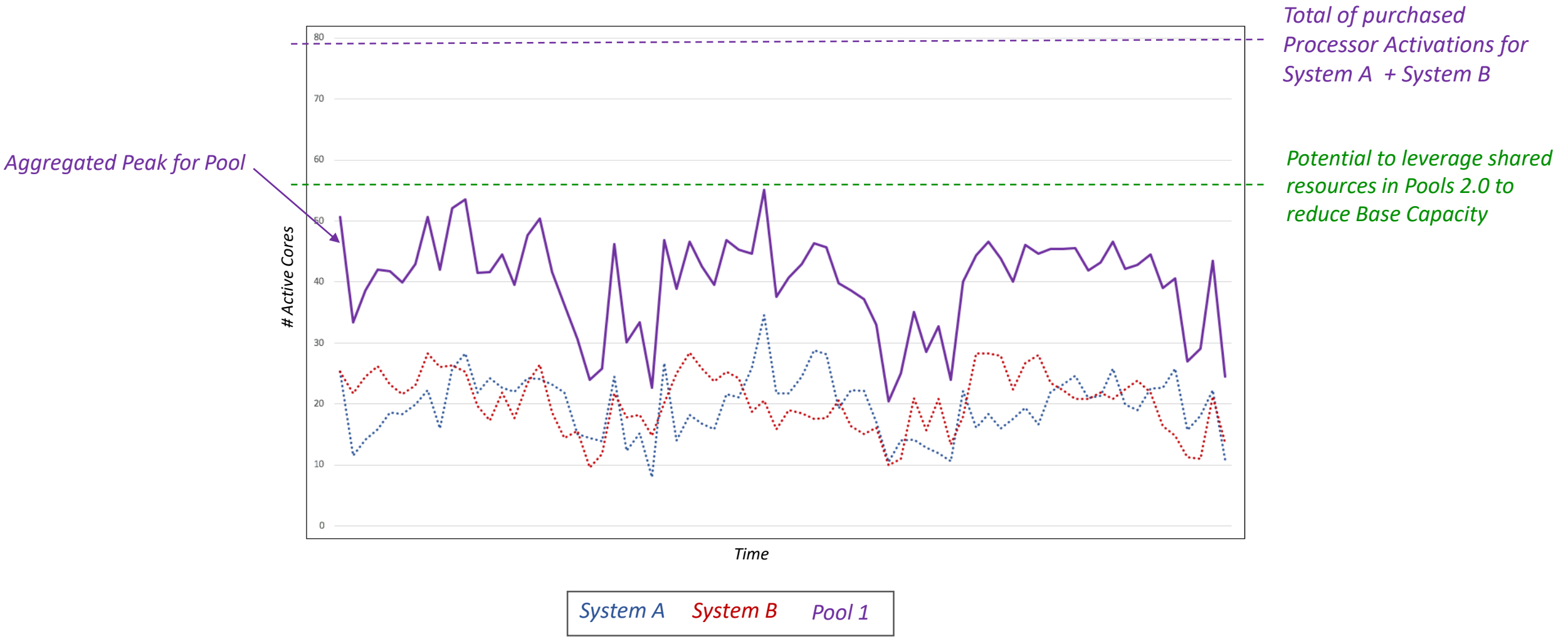


System B

Potential Metered Capacity consumption charges on one system may be offset by available (idle) Base Capacity on another system for the same minute



Maximum Cores - Pool View of aggregated Base Capacity

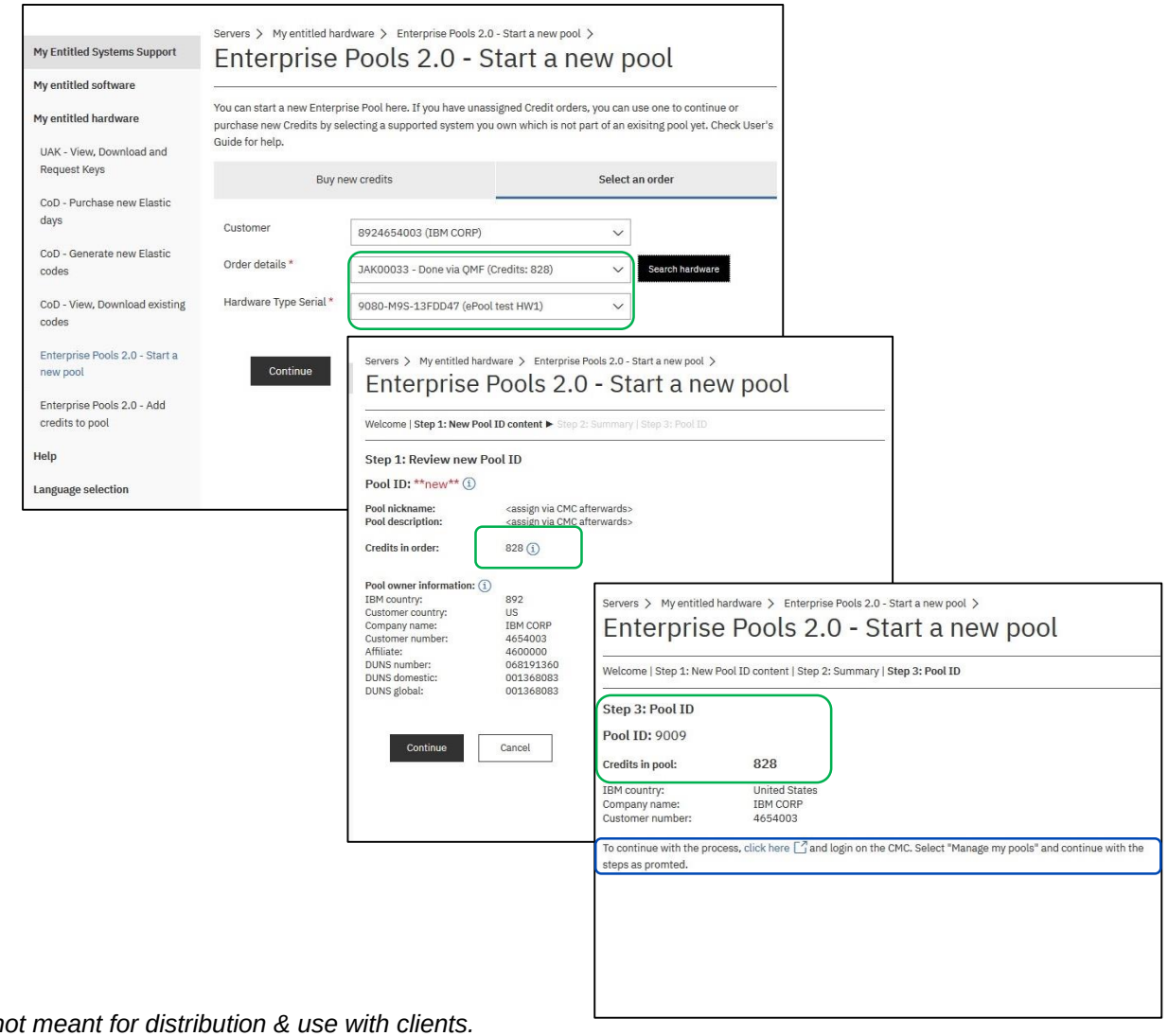


Requirements for Shared Utility Capacity

- Client purchases or leases a Power Scale-Out system with some “dark” resources available for temporary use
- One to thirty-two Power S924 or Power S922 systems with an IBM AIX®, Linux®, or IBM i operating system may be in the same Pool
- Power Systems firmware 940.1, or later
- All Systems must be in the same enterprise and geopolitical country
- A maximum of 1,000 VMs and up to 32 systems in a pool managed by a single CMC, with up to 500 virtual machines supported per HMC managing a Power Enterprise Pool 2.0.
- *Shared Processor Partitions only* - no Dedicated LPARs
- A minimum of 1 Base Processor Activation is required (FW 940.1 & CMC 1.10)
- A minimum of 256GB of Installed Memory is required
- Cloud Management Console subscription & connection are required
  - All HMCs managing servers within a Pool require Network Time Protocol (NTP) to be enabled
  - Performance and Capacity Monitoring (PCM) must be enabled via HMC for each server in a Pool
- Hardware & Software Maintenance are required on all systems
- Client purchases *Capacity Credits* from Sales (via eConfig order) or directly via Entitled System Support (ESS) (currently available in US, Europe, MEA & CAN) to pay for resource consumption.

5-Steps for Utility Capacity consumption

1. Client purchases *Capacity Credits* from IBM Sales or directly (where available) via Entitled System Support (ESS) site to pay for Metered resource consumption.
2. Client establishes a Pool ID via ESS using S/N of a system and selecting order # with Capacity Credits.
3. Client creates a Power Enterprise Pool (2.0) via the Cloud Management Console, selecting available Power E980 or E950 systems by serial number and associating each with the same Pool ID
4. When the Pool is started, all processor and memory resources are activated and made available on each on all system in the pool, and the CMC begins monitoring the Processor, Memory and License entitlement resource usage of the pool by the minute.
5. Metered resource usage above the Pool's aggregate Base capacity is accrued by the minute and debited against a client's Capacity Credits on account on a real-time basis…. visible in CMC updated daily in ESS.



Pools 2.0 Consumption Rate Tables – Minutes : 1 Credit @ List $240

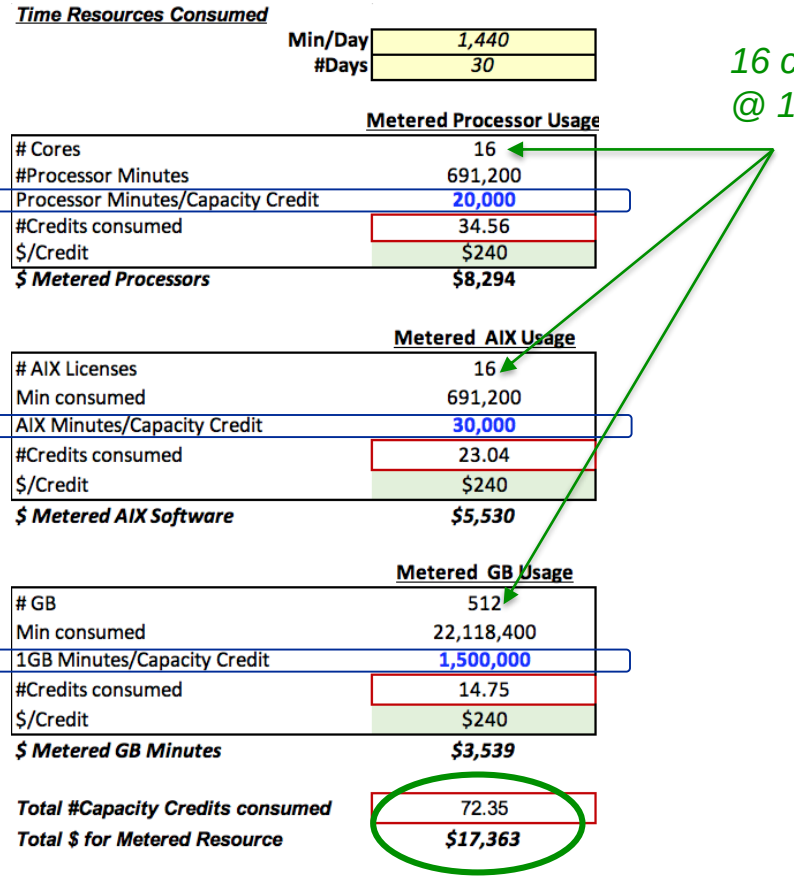
Metered Usage Ratio (# Minutes : 1 Credit)

	Power E980	Power E950	Power S922 Power S924
Processor Activation (1 core – Any OS)	20,000	60,000	130,000
Processor Activation (1 core - Linux/VIOS only)	40,000	90,000	N/A
AIX software entitlement (1 core)	30,000	50,000	50,000
IBM i software entitlement (1 core)	1,500	N/A	2,000
Memory Activation (1 GB)	1,500,000	5,000,0000	N/A

Rate Table Example

- 16 cores, 512GB running AIX
- 100% utilization for 30 days *(no idle, no offset from other systems in same pool)*

Resource Type	Metered Usage Ratio (Minutes : 1 Credit)
Processor Activation (1 core - any operating system)	20,000
Processor Activation (1 core - Linux/VIOS only)	40,000
AIX software entitlement (1 core)	30,000
IBM i software entitlement (1 core)	1,500
Memory Activation (1 GB)	1,500,000

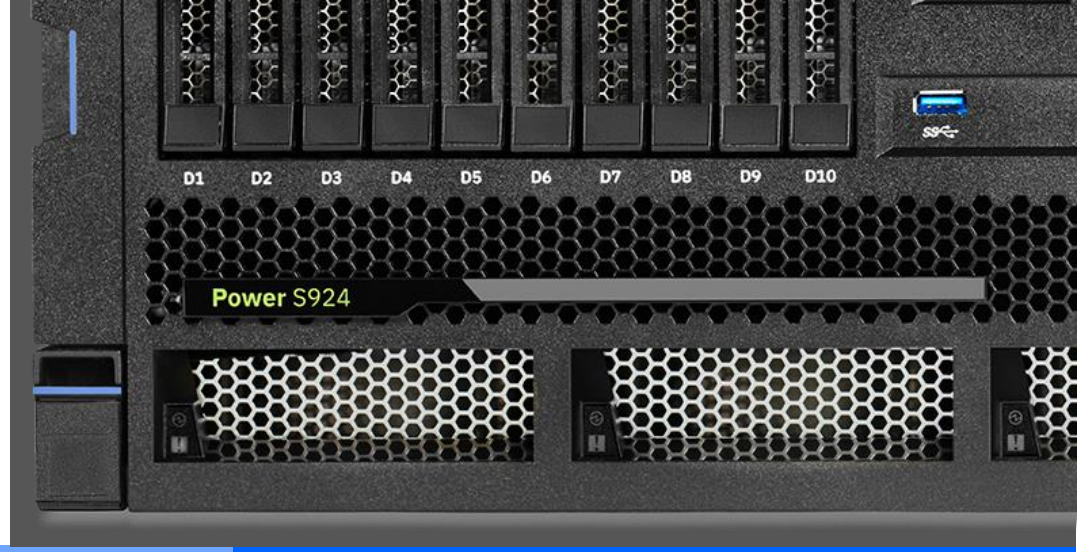


16 cores, 512GB running AIX
@ 100% Utilization for 30 days

(List prices, for illustration only and are subject to change without notice).

POWER9 Scale-Out Systems

S922 • S924 | G-models



Lightspeed I/O

Improved cloud data locality and latency with expanded ***180%[2]*** **more Enterprise** NVMe capacity and ***2X[3]*** throughput improvement

Performance

10% more performance[4] with new 11-cores processor offerings in a 2U server, and a new 1-core POWER9 chip

Flexible Consumption

Up to 58% lower initial system price with **pay-per-use compute** and resource sharing via IBM Private Cloud with Shared Utility Capacity

Ideal Building block for hybrid multicloud

RED HAT ANSIBLE Automation

i for Business AIX Linux

RED HAT OPENSHIFT

PowerVM PowerVC PowerSC PowerHA VMR HA / VMR DR

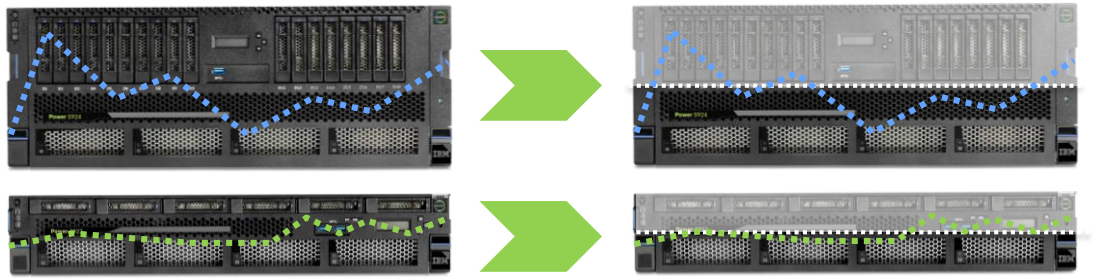
(1) Based on IBM internal testing running MongoDB's Geospatial queries at 700 users, each running 1000 transactions using jmeter v4. Each container uses MongoDB 4.0.2 & Node.js v8.14.1 (REST APIs) with socket bound containers. Testing added containers to each server until servers reached response time limit of 99% of transactions completing in under 1 second. Results valid as of 7/16/19. Conducted under laboratory condition with speculative execution controls to mitigate user-to-kernel and user-to-user side-channel attacks on both systems, Individual result can vary based on workload size, use of storage subsystems & other conditions. Details about MongoDB workload: https://docs.mongodb.com/manual/tutorial/geospatial-tutorial/ 3.2X greater containers/core is based on 174 containers/20 cores for Power L922 and 98 containers/36 cores for Intel Xeon. – (2,531/20)/(2,290/36) = 3.2 . IBM Power L922 (2x10-core/typical 2.9 GHz/256 GB memory) 2x 388 GB SSD, 2x 10 Gb two-port network, RHEL 7.6 with PowerVM (2 partitions@10-cores each), Competitive stack: 2-socket Intel Xeon Skylake Gold 6150 (2x18-core/ 2.7 GHz/256 GB memory), 2 x 480 GB SSD, 3 x 10 Gb two-port network, RHEL 7.6, KVM (2 VMs@18-cores each) (2) 180% more capacity based on 14x6.4TB NVMe drives compared to 5x6.4TB NVMe drives. (3) 2X I/O throughput based on PCI Gen4 compared to PCI Gen3 (4) 10% more performance based on introduction of 11-core processor compared to previous maximum 10-core processor capability on the S922

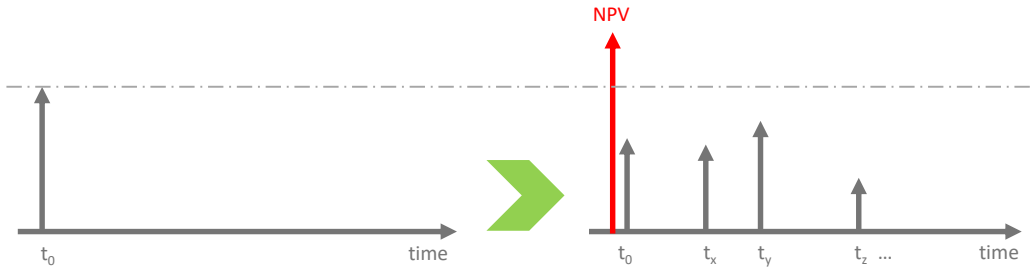
Power Private Cloud on Scale-Out Servers

Introducing Shared Utility Capacity on IBM Power S922 and S924 Servers for pay-per-use compute experience - *by the minute*

RED HAT ANSIBLE Automation
RED HAT OPENSHIFT
PowerVM
PowerVC
AIX
IBM i for Business
Linux

Static Full Active Systems → **Flexible Consumption Systems**





VALUE PROPOSITION

- Enable multi-systems resource sharing across a collection of scale-out servers
- Up to 58% lower initial system price to drive a flexible financial acquisition
- Offers a single-pane-of-glass for monitoring and metering a complete POWER landscape

SCOPE

- S922 and S924 Gen4 systems with a minimum of 8 physical cores, one base activation and 256 GB memory
- Share processors, AIX and IBM i license entitlements in the same pool (not memory)
- Supports resource sharing between S922 and S924 systems in the same Pool

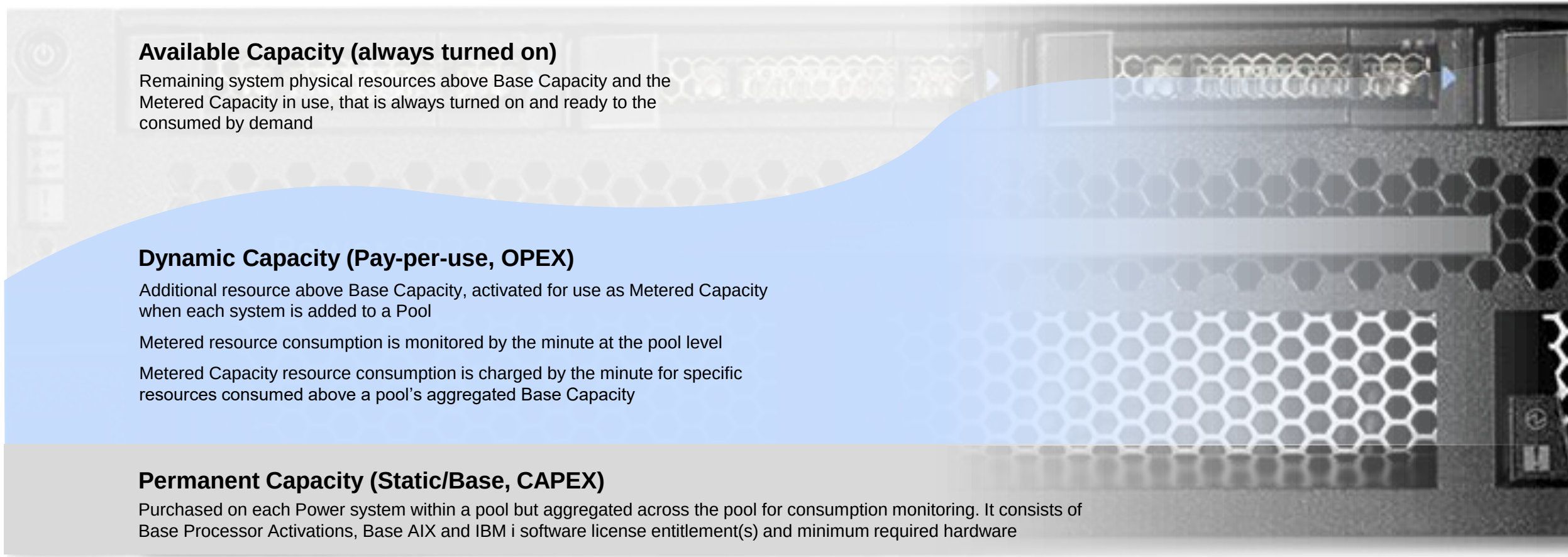
POSITIONING

- On-prem flexible capacity going down-market to 2-sockets servers
  - HPE Greenlake, AWS Outpost, Azure Stack, Lenovo TruScale, Dell Cloud Flex, Cisco Open Pay, Oracle Cloud at Customer
- IBM differentiation:
  - No monthly fees
  - Enables multi-systems resource sharing
  - IBM's unique comprehensive approach to cloud (on-prem IT to public cloud provider)

TARGET USE CASES

- High-end customers seeking a multi-system resource sharing across low entry servers
- Customers with multiple installations of scale-out servers, in a single datacenter or distributed in different sites
- MSPs/CSPs aiming POWER-based cloud go-to-market such as HANA, Oracle, AIX, IBM I, and others

Capacity Consumption in the Power Private Cloud



Available Capacity (always turned on)

Remaining system physical resources above Base Capacity and the Metered Capacity in use, that is always turned on and ready to the consumed by demand

Dynamic Capacity (Pay-per-use, OPEX)

Additional resource above Base Capacity, activated for use as Metered Capacity when each system is added to a Pool

Metered resource consumption is monitored by the minute at the pool level

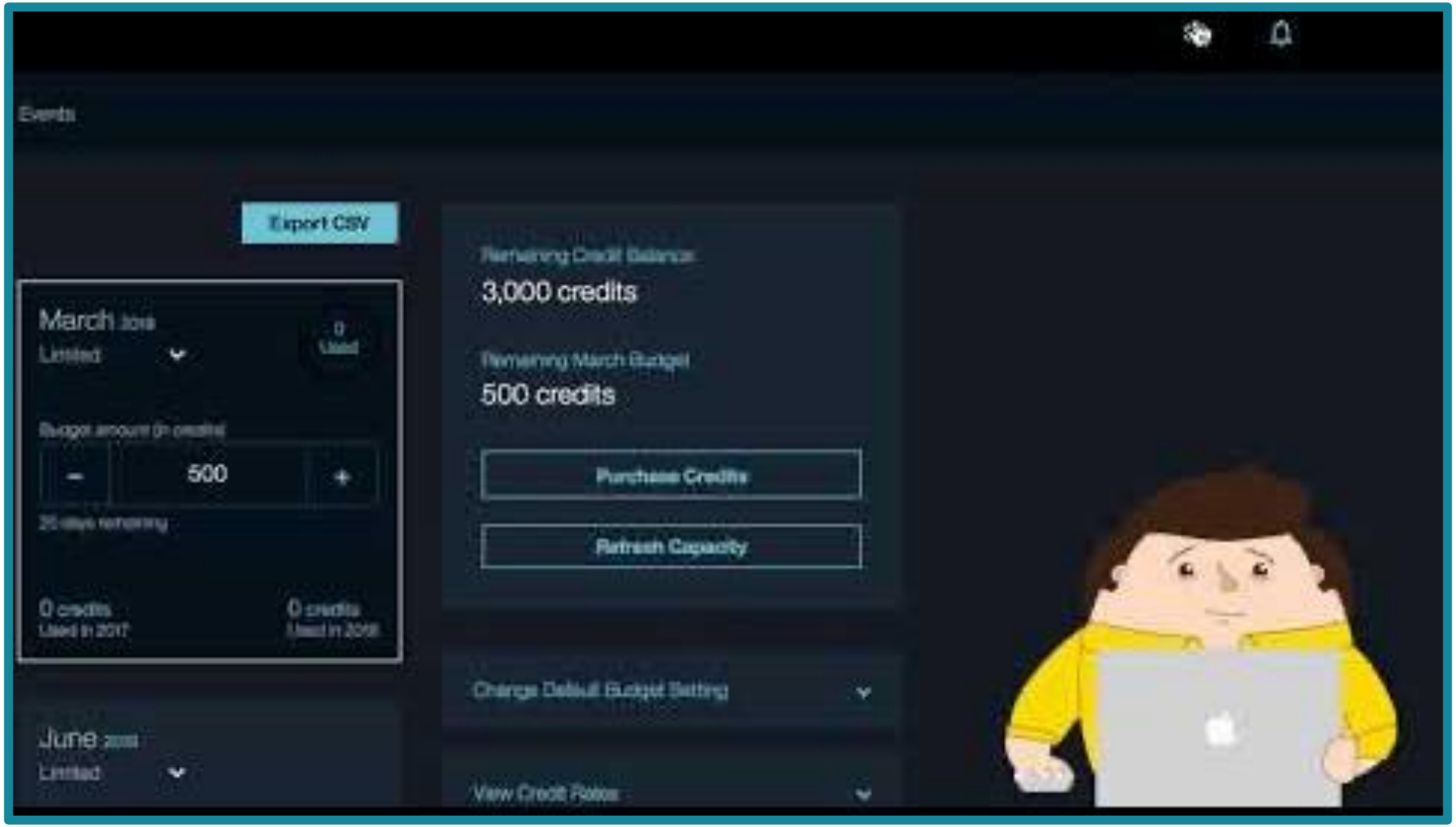
Metered Capacity resource consumption is charged by the minute for specific resources consumed above a pool's aggregated Base Capacity

Permanent Capacity (Static/Base, CAPEX)

Purchased on each Power system within a pool but aggregated across the pool for consumption monitoring. It consists of Base Processor Activations, Base AIX and IBM i software license entitlement(s) and minimum required hardware

Note: Clients may manage potential resource consumption via PowerVM & PowerVC configuration & resource management options & policies

Video: Details on CMC reporting in Shared Utility Capacity



Video on Pools2.0 – details on CMC reporting: https://www.youtube.com/watch?v=I7PgpBOGSqQ

Reference: Processors and Activations Matrix

	A-models		G-models Fully Active		G-models in Enterprise Pools 2.0	
S922	**9009-22A Static feature codes**		**9009-22G Static feature codes**		**9009-22G Pools processors feature codes**	
	FC	***Processors***	***FC***	***Processors***	***FC***	***Processors***
1-core	N/A	N/A	EP5Y	1-core Typical 2.8 to 3.8 Ghz (max) POWER9 Processor	N/A	N/A
4-core	EP16	4-core Typical 2.8 to 3.8 GHz (max) POWER9 Processor	EP56	4-core Typical 2.8 to 3.8 GHz (max) POWER9 Processor	N/A	N/A
8-core	EP18	8-core Typical 3.4 to 3.9 Ghz (max) POWER9 Processor	EP58	8-core Typical 3.4 to 3.9 Ghz (max) POWER9 Processor	EUA7	8-core Base Processor for (Pools 2.0) Typical3.4 to 3.9 Ghz (max) POWER9
10-core	EP19	10-core Typical 2.9 to 3.8 Ghz (max) POWER9 Processor	EP59	10-core Typical 2.9 to 3.8 Ghz (max) POWER9 Processor	EUA8	10-core Base Processor for (Pools 2.0) Typical2.9 to 3.8 Ghz (max) POWER9
11-core	N/A	N/A	EP5B	11-core Typical 2.8 to 3.8 Ghz (max) POWER9 Processor	EUA9	11-core Base Processor for (Pools 2.0) Typical2.8 to 3.8 Ghz Ghz (max) POWER9
	FC	***Cores Activations***	***FC***	***Cores Activations***	***FC***	***Cores Activations***
1-core		N/A	EP6Y	One Processor Core Activation for #EP5Y		N/A
4-core	EP46	One Processor Core Activation for #EP16	EP66	One Processor Core Activation for #EP56		N/A
8-core	EP48	One Processor Core Activation for #EP18	EP68	One Processor Core Activation for #EP58	EUAB	1 core Base Processor Activation (Pools 2.0) for EUA7 - Any OS
10-core	EP49	One Processor Core Activation for #EP19	EP69	One Processor Core Activation for #EP59	EUAC	1 core Base Processor Activation (Pools 2.0) for EUA8 - Any OS
11-core		N/A	EP6B	One Processor Core Activation for #EP5B	EUAD	1 core Base Processor Activation (Pools 2.0) for EUA9 - Any OS
S924	**9009-42A**		**9009-42G - Static feature codes**		**9009-42G Pools processors**	
	FC	***Processors***	***FC***	***Processors***	***FC***	***Processors***
8-core	EP1E	8-core typical 3.8 to 4.0 GHz (max) POWER9 Processor	EP5E	8-core Typical 3.8 to 4.0 Ghz (max) POWER9 Processor	EUB6	8-core Base Processor for (Pools 2.0)
10-core	EP1F	10-core typical 3.5 to 3.9 GHz (max) POWER9 Processor	EP5F	10-core Typical 3.5 to 3.9 Ghz (max) POWER9 Processor	EUB7	10-core Base Processor for (Pools 2.0)
11-core	EP1H	11-core typical 3.45 to 3.9 GHz (max) POWER9 Processor	EP5H	11-core Typical 3.45 to 3.9 Ghz (max) POWER9 Processor	EUB8	11-core Base Processor for (Pools 2.0)
12-core	EP1G	12-core typical 3.4 to 3.9 GHz (max) POWER9 Processor	EP5G	12-core Typical 3.4 to 3.9 Ghz (max) POWER9 Processor	EUB9	12-core Base Processor for (Pools 2.0)
	FC	***Cores Activations***	***FC***	***Cores Activations***	***FC***	***Cores Activations***
8-core	EP4E	One Processor Core Activation for #EP1E	EP6E	One Processor Core Activation for #EP5E	EUBA	1 core Base Processor Activation (Pools 2.0) forEUB6 - Any OS
10-core	EP4F	One Processor Core Activation for #EP1F	EP6F	One Processor Core Activation for #EP5F	EUBB	1 core Base Processor Activation (Pools 2.0) forEUB7 - Any OS
11-core	EP4H	One Processor Core Activation for #EP1H	EP6H	One Processor Core Activation for #EP5H	EUBC	1 core Base Processor Activation (Pools 2.0) forEUB8 - Any OS
12-core	EP4G	One Processor Core Activation for #EP1G	EP6G	One Processor Core Activation for #EP5G	EUBD	1 core Base Processor Activation (Pools 2.0) forEUB9 - Any OS

Power Systems Private Cloud Scope: Scale-Out vs Scale-Up

	Scale-Up (E980, E950)	Scale-Out (S922, S924)
Shared Utility Capacity	Yes	Yes
Processor cores metering	Yes	Yes
AIX and IBM i entitlements metering	Yes	Yes
Buy Capacity Credicts in the ESS Portal	Yes	Yes
Memory metering	Yes	No
Elastic Capacity (ECOD)	Yes	No
Base Activations by OS	One for AIX/IBM i and another for Linux	One base core activation for Any OS
Intermix of systems in the same pool	No	Yes
Managed through IBM Cloud Management Console (CMC)	Yes	Yes
Try before you buy: Lab Services Private Cloud Capacity Assessment (FC #EP2X)	Yes	No. Quote directly with Lab Services

IBM Power Private Cloud Capacity Assessment & Implementation Services

Overview

IBM Power Private Cloud Capacity Assessment & Implementation Services is a multisystem IBM Power server infrastructure offering designed to provide a highly resilient and flexible IT environment in support of large-scale servers and your most demanding business applications. This service helps configure and exploit the capabilities of Power's *Elastic Capacity* or *Shared Utility Capacity* to optimize ROI when deploying a Power infrastructure with Power E980 and/or E950 systems.

Target Audience

- Clients with two or more Power Enterprise Servers with Shared Utility or Elastic Capacity
- Works with AIX, Linux and IBM i

Benefits

- Helps improve overall availability with reduced risk of downtime and disruption
- IBM Lab Services consultant remote or on-site
- Skills transfer from our experts helps you fully exploit the capabilities of this product

Qualifying Questions

- Are you planning to deploy pay-for-use capacity within your infrastructure?
- How do you utilize Elastic Capacity on Demand or Power Enterprise Pools 2.0 and the Cloud Management Console?
- How can we optimize our Power infrastructure to be most responsive to the needs of our business?
- How can I most effectively deploy our Power capacity to ensure we deliver high availability and support Live Partition Mobility?

Key Features

- Review workload utilization in the Shared Utility Capacity pool using the IBM Lab Services Capacity Planning Tool – Metered Capacity Modeling
- Assist evaluating the best
- Hands on implementation to provide skills transfer to your team to learn how to use IBM Shared Utility Capacity
- Assist clients in determining the usage for advanced planning and other events
- Implement IBM Cloud Management Console for Power Systems

Deliverables

- Enablement of Shared Utility Capacity or Elastic Capacity
- Enablement of the Cloud Management Console
- A presentation of the results from the IBM Lab Services Capacity Planning Tool – Metered Capacity Modelling

Duration

The service varies depending on the size and complexity of the implementation, but can be customized to specific client requirements.

Resources

Learn more about Power Enterprise Pools at:
https://www.ibm.com/it-infrastructure/power/capabilities/capacity-on-demand

IBM Power Systems Private Cloud Solution

Cloud-like agility and economics with leadership business continuity and security

Simplify and automate management with consistent skills and processes

Extend to Hybrid Cloud with flexible capacity, hybrid cloud management and leadership Linux container support

IBM Power Private Cloud

Power Private Cloud with Dynamic Capacity – Latest Assets

- **New Step by Step Guide**
  https://ibm.seismic.com/Link/Content/DCaa3cc1c5-9605-4745-bf38-67defc6f0e52
- **E980 Excel Configuration Template**
  https://ibm.seismic.com/Link/Content/DCcff69325-291d-4b8d-bc51-591c45df80fc
- **E950 Excel Configuration Template**
  https://ibm.seismic.com/Link/Content/DC7affb2fb-ab05-4e00-9ffd-a667bd5f4f88
- **S922 & S924 Excel Configuration Template**
  https://ibm.seismic.com/Link/Content/DCw1YEqSXzckGzW968o4Xbqw
- **Power Enterprise Server Sales Kit**
- **Power Scale-out Server Sales Kit**

Thank You!

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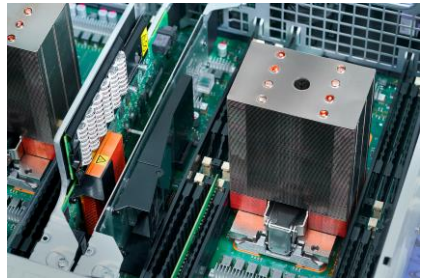



Shared Utility Capacity on Scale-Out FAQ's

Q: Do we have to prioritize Pools vs. Static solutions?
A: No. It depends on the financial driver.

- If the customer can't invest much capital today (prevailing situation these days due to the pandemic hit), then the Pools might be the best alternative.
- If the customer accounting rules accept the core activations and/or capacity credits to be classified as OPEX, it reduces CAPEX allocation in fixed assets with depreciation, and might be more attractive.
- If the customer can make the acquisition upfront with all the system active, that's the preferred method from our side as well.
- If nothing of that applies, then a net present value and/or payback exercise is needed to compare

Q. If the customer has S922 and S924 in the same shared pool, how is IBM i licensed?
A: S922 belongs to P10 group and S924 belongs to P20 group. If both are sharing resources in the same pool, the whole pool become a P20 group licensing

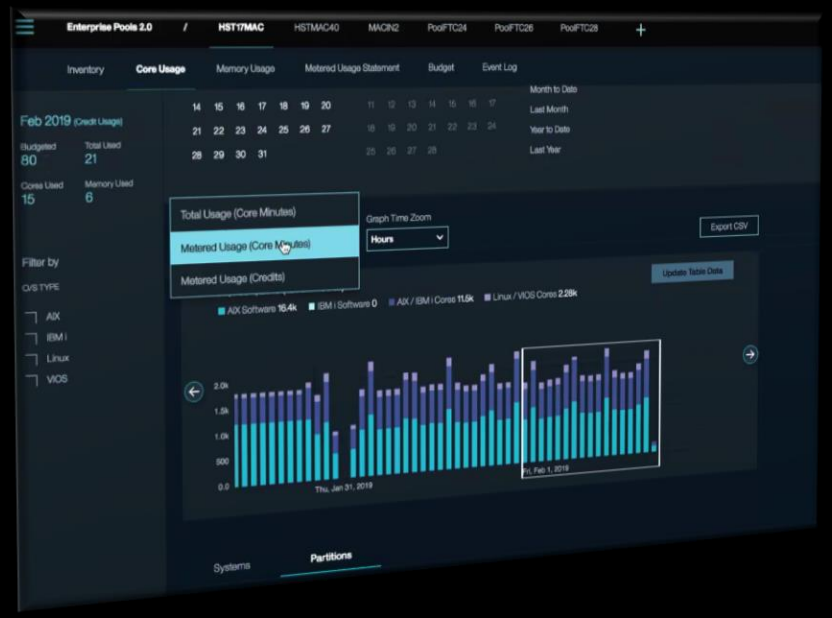
Q. How is 3rd party software licensed in a pool?
A: Nothing changes. If the license is charged by total physical cores/processor/chips/sockets or by the server, it's quite seamless, though the system can have a smaller acquisition price.
If the license is by used cores, the customer must have enough for the base active cores and provision licenses for metered cores to be used in the future, the same way as in a static system.

Q: What happens if the customer runs out of credits in the pool?
A: A throttling process is initiated. The system won't stop but will start moving the processing back to the base cores, reducing the workloads' speed by accommodating them in the base core activations.

IBMers and BPs, for more FAQs about the Scale-Out Servers, please visit https://ibm.seismic.com/Link/Content/DCaNEc7Z-VyUiLC8P7gYLM5Q

Now Available:

IBM Private Cloud Solutions for Scale-Out Servers



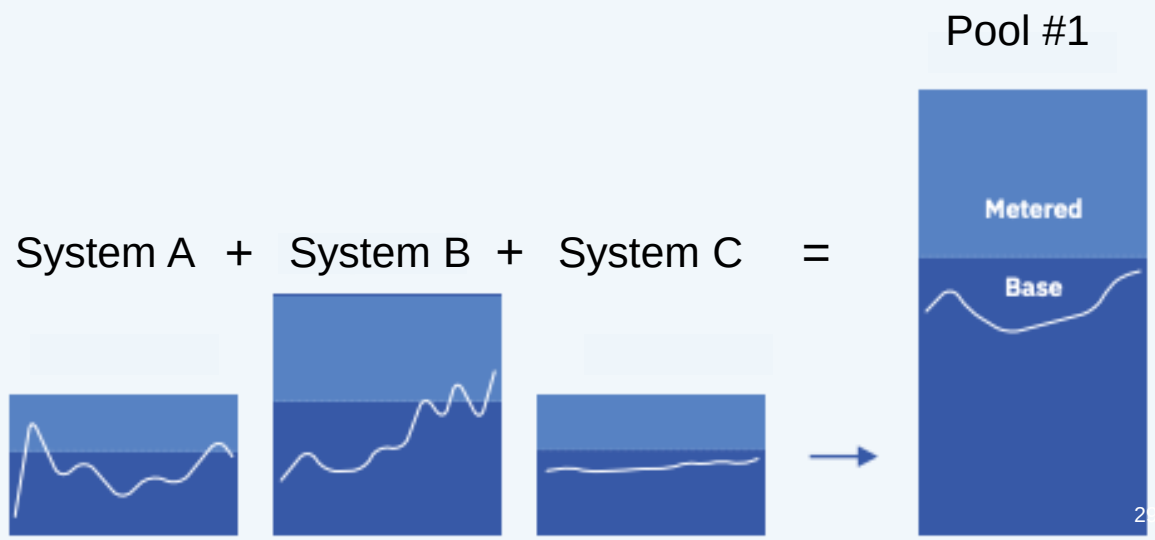
IBM Cloud Management Console

1. No base monthly fees: pay for only what use with metering by the minute
2. Share resources across systems
3. Leverages IBM's unique comprehensive portfolio approach to Cloud

Automatically monitor and debit against capacity credits based on actual usage by the minute

58%

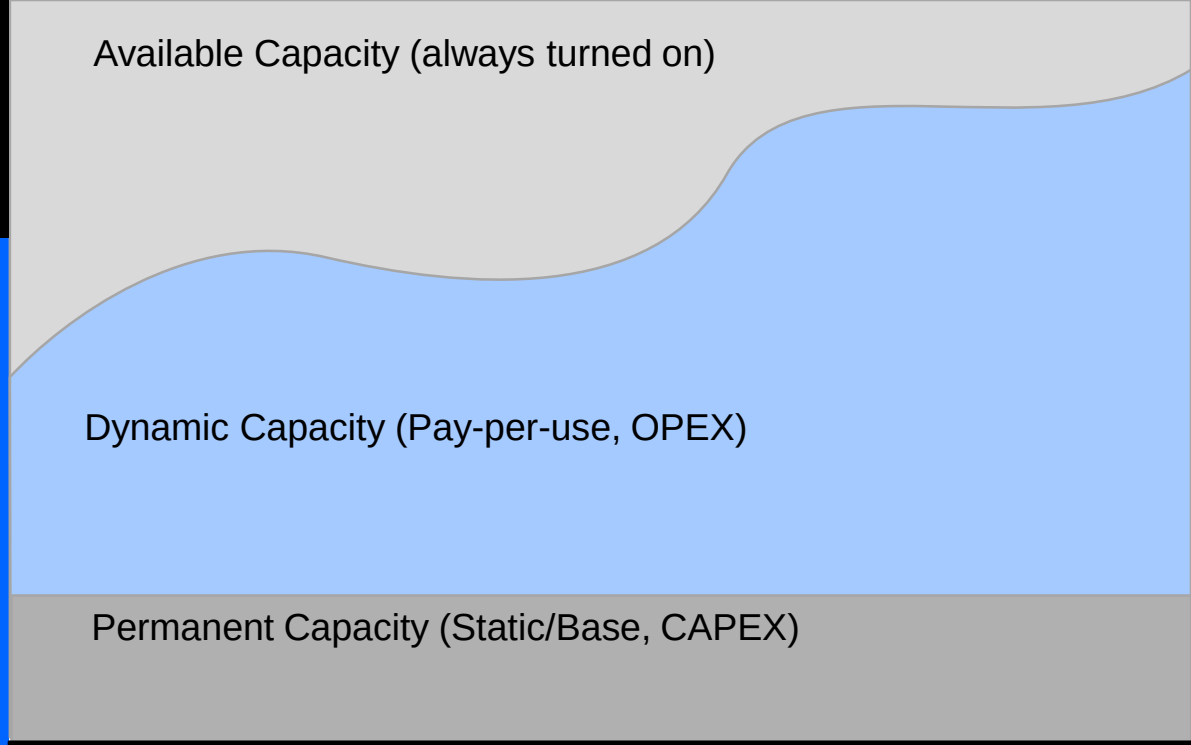
lower entry TCA vs. P9 previous generation[1]

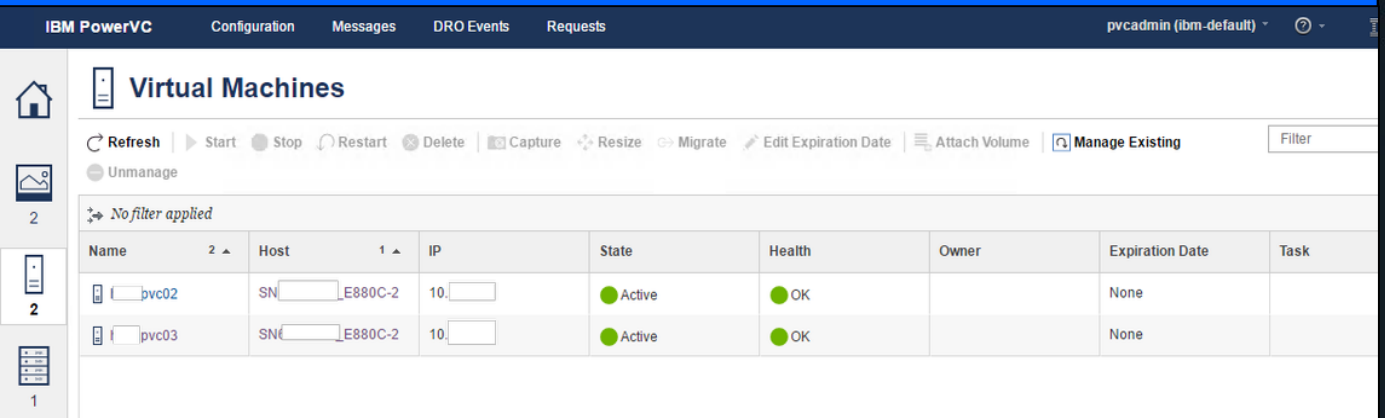


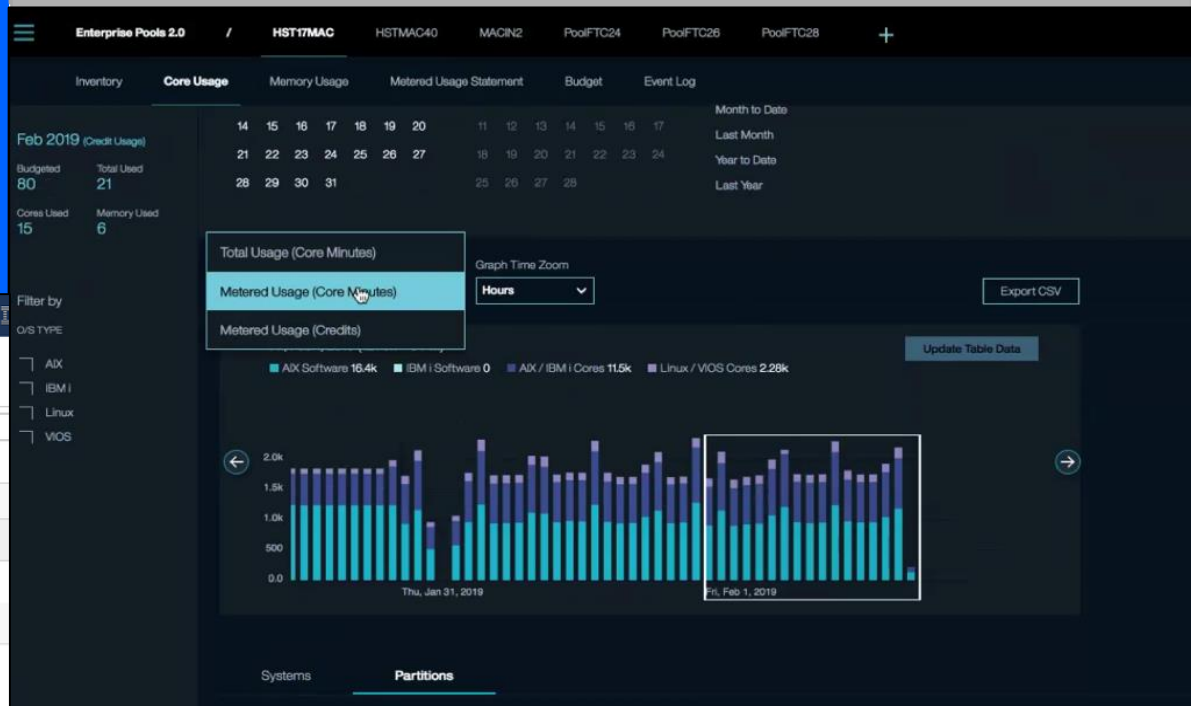
[1] 58% lower TCA is based on the minimum previous configuration for S922/20c/256GB memory (20c/256GB active) compared to the new Pools 2.0 S922 option with 20c/256GB (1c/256GB active) with AIX Enterprise Cloud Edition

Cloud scaling and High availability with private cloud on IBM Power Systems

- Navigate demand fluctuations scaling up and down with always turned on pay-per-use capacity
- Manage high availability by optimizing capacity utilization across multiple systems
- Optimize TCA/TCO based on your goals with flexibility to choose the base capacity (as low as 1core, 256 GB) you need
- Pay only for the precise capacity used with by the minute metering
- No monthly fixed fee, no minimum usage fee and no minimum contract duration
- Self-service provisioning with IaaS on OpenStack based PowerVC

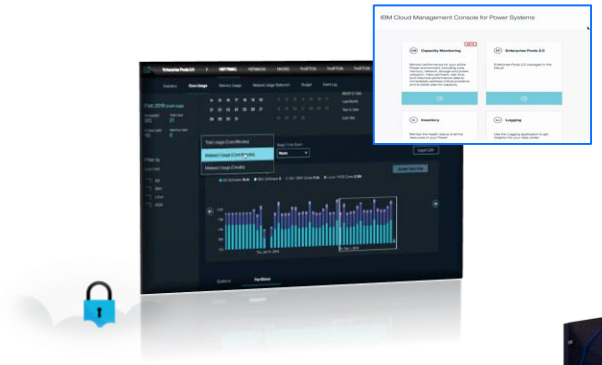






Power Private Cloud with Shared Utility Capacity

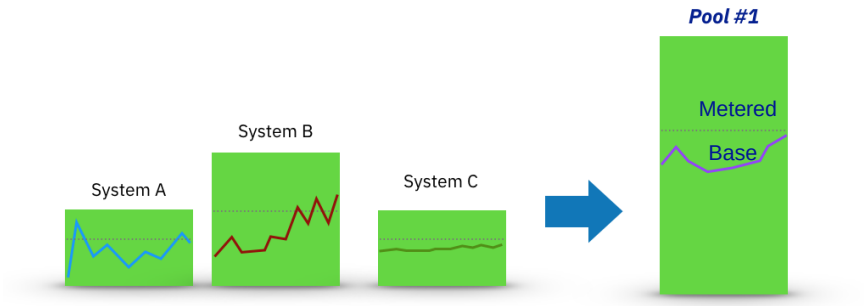
Cloud-like agility and economics with leadership business continuity and security



Power S922 & S924

Power E950

Power E980



* One server machine type per pool. Multiple pools may be managed by a single instance of a Cloud Management Console

Expand Shared Utility Capacity

- Deploy a Power Private Cloud infrastructure with Shared Utility Capacity across a collection of Power E980, or E950, or S924 and S922 systems*
- New, minimal system purchase/lease option as low as 1 core, 256GB active, with pay-per-use on balance of fully active capacity by the minute
- Industry-leading monitoring and metering via IBM Cloud Management Console with granular, real-time & historical views of consumption by resource by VM & system
- IBM Proactive Support
- Private Cloud Capacity Assessment & Implementation Services

Deploy Shared Utility Capacity

- One machine type supported per pool
- Purchase servers with Base capacity
- Variable demand addressed by purchasing Capacity Credits for Metered capacity
- IBM Cloud Management Console with HMC automatically monitors and debits against Capacity Credits based on actual usage by the minute

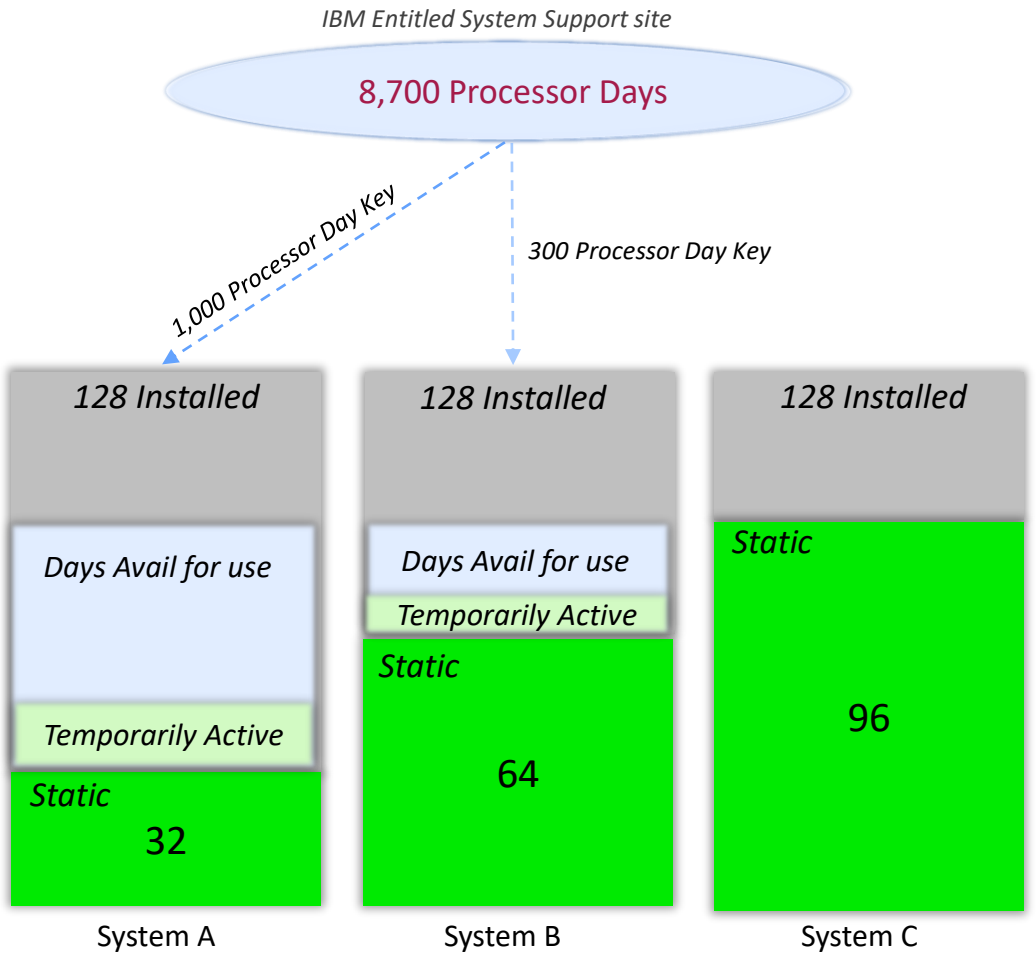
Base and Metered Capacity

Processor activations AIX and IBM i licenses Memory activations

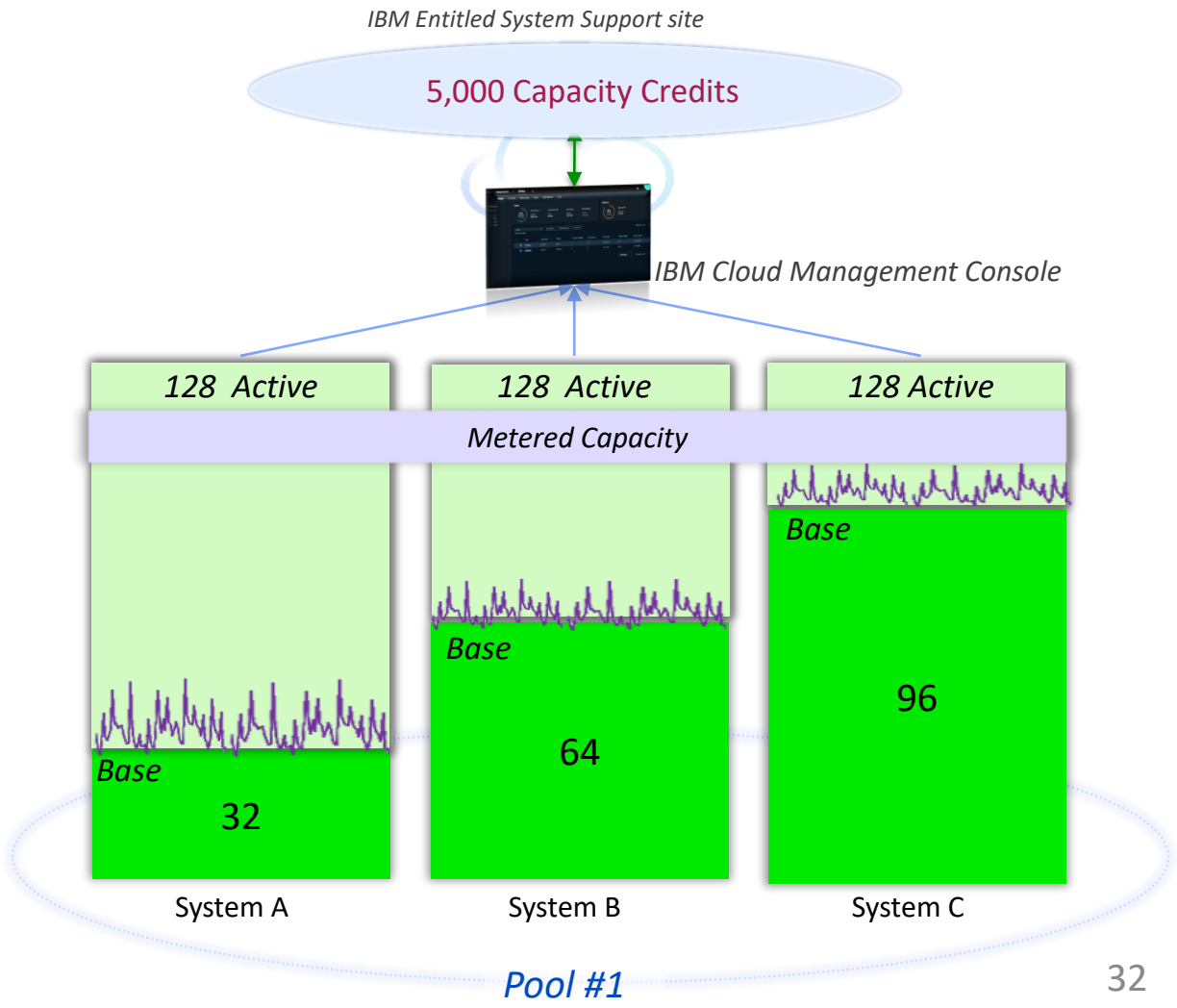
(E980 and E950 only)

Power Systems Dynamic Capacity : Elastic vs. Shared Utility

Elastic Capacity – by the day

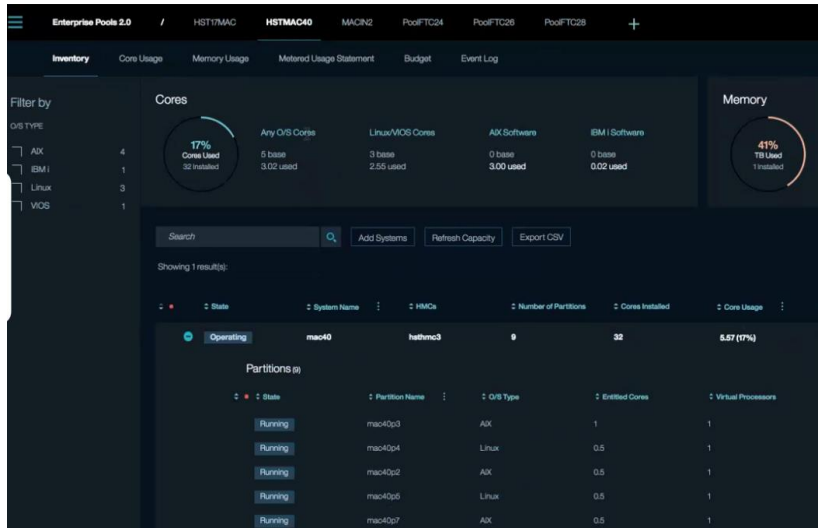


Shared Utility Capacity – *by the minute*



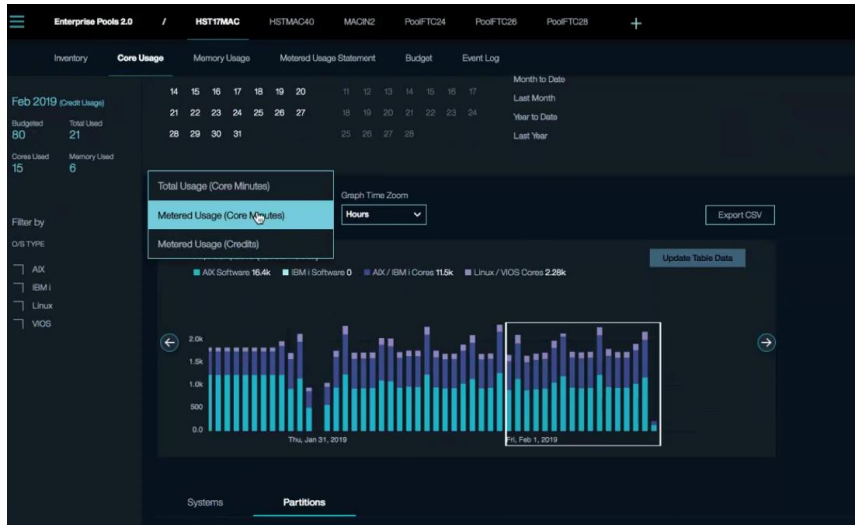
Cloud Management Console (CMC) for Power Enterprise Pools 2.0

Inventory



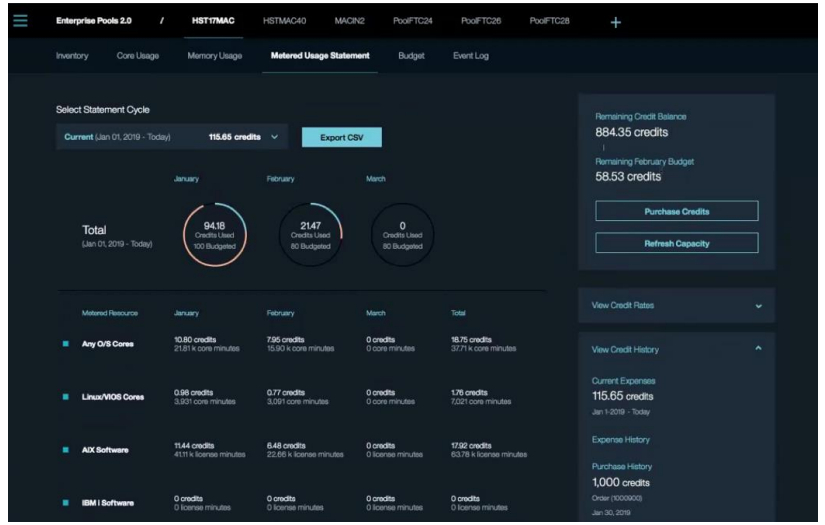
- Displaying, Monitoring & Managing a Pool
- Aggregated resource and VM level detail

Advanced Monitoring



- Analyze Total or Metered Usage
- Change the Time Frame for analysis (Minute, Hour, Day, Week, Month)
- Usage by resource type
- Trending Analysis with ability to adjust time scale

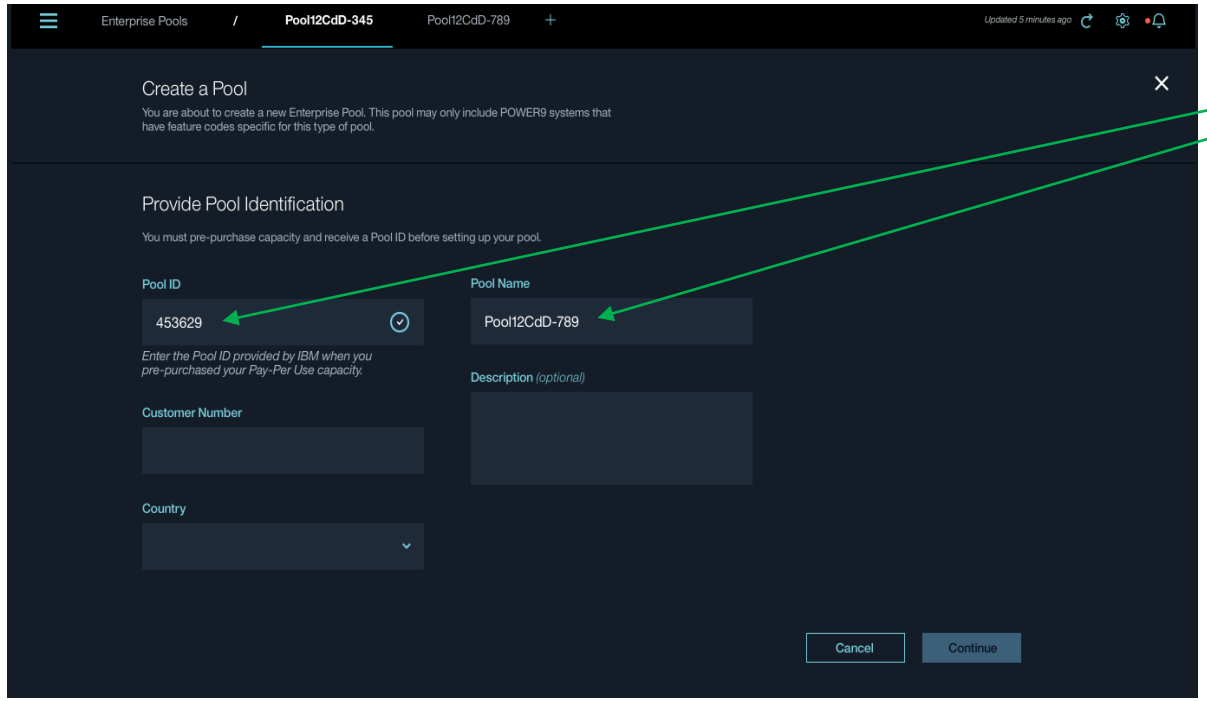
Metered Usage Statement



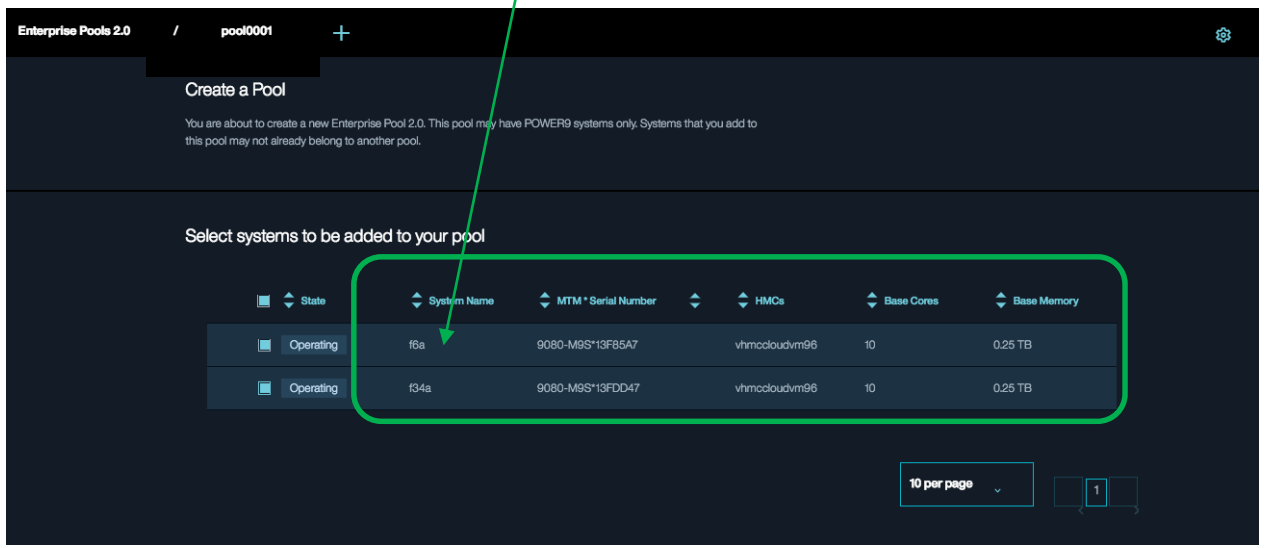
- Show Capacity Credits consumed and breakdown by resource
- Display Credit balance, budget status, rate table and purchase history

Creating a Pool (2.0)

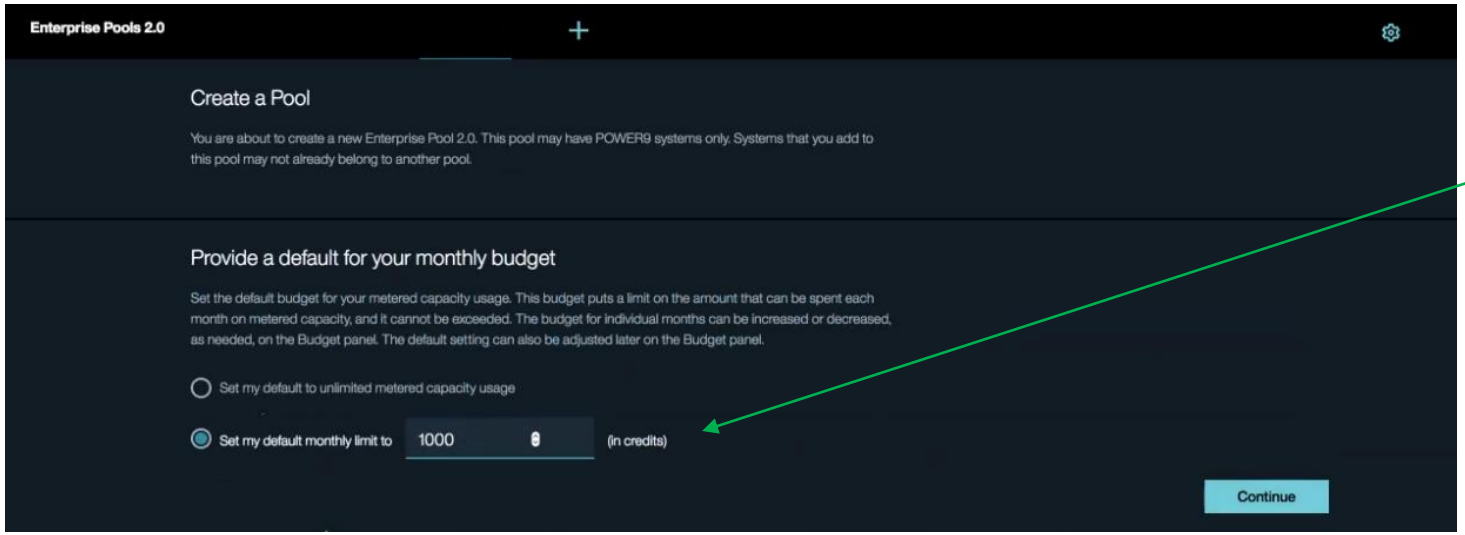
Enter the Pool ID to use and define the Name for this Pool in the enterprise



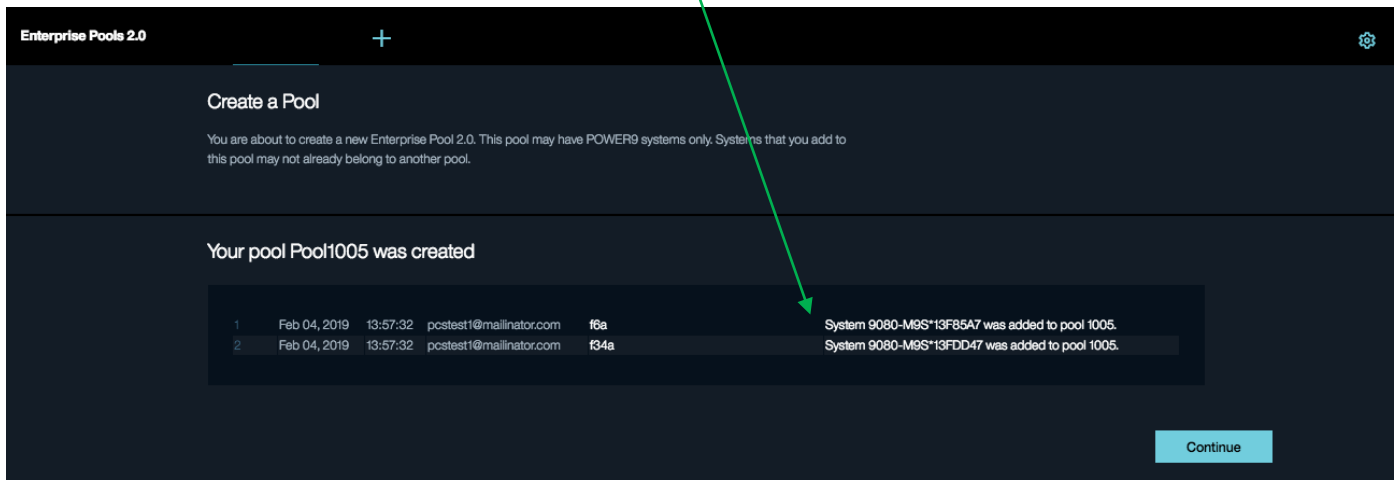
Select additional Power E980s to add to the Pool



Creating a Pool (2.0)

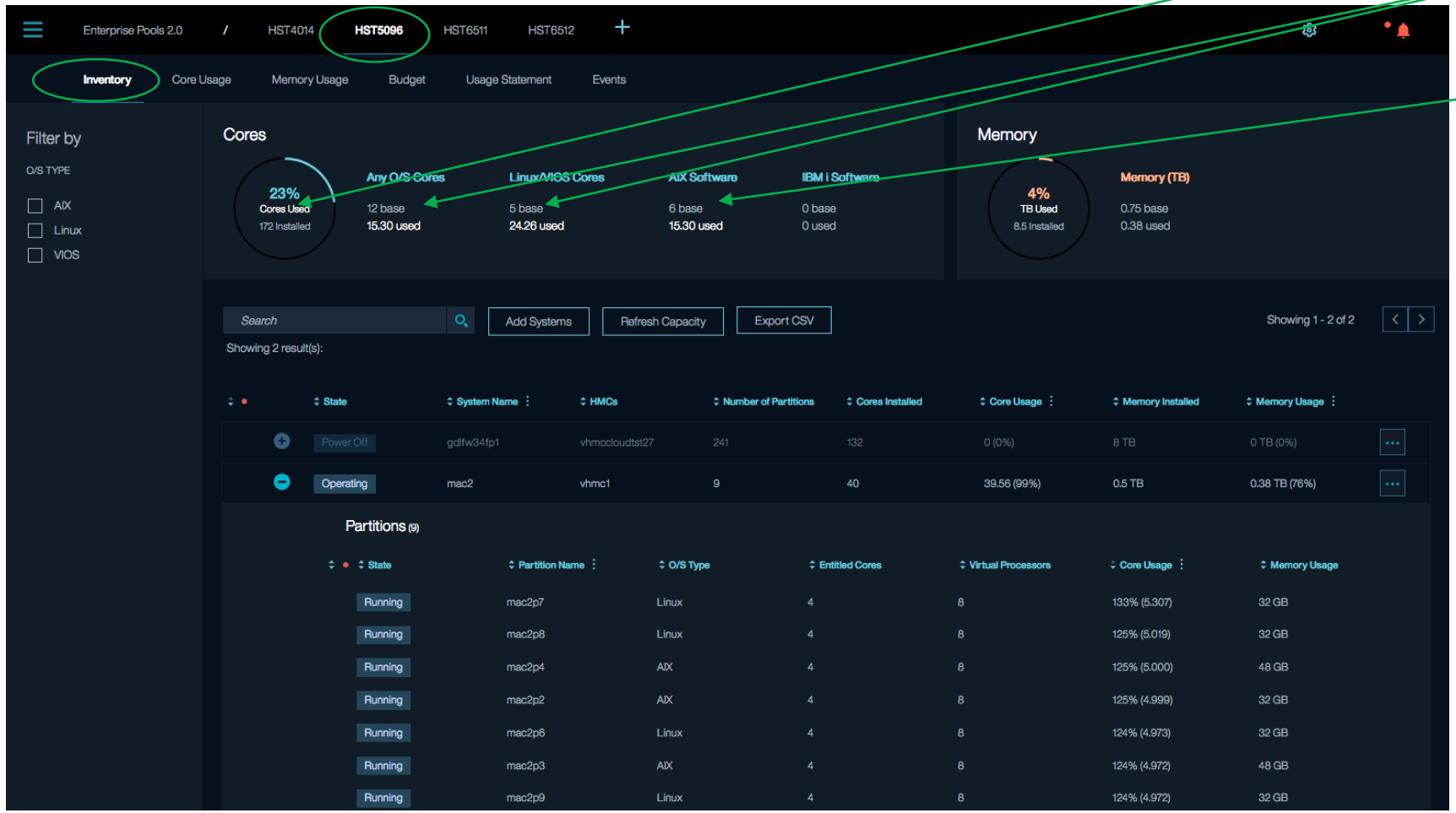


Set a budget ceiling if desired and then continue, and the new Pool will be created



Cloud Management Console Inventory - Displaying, Monitoring & Managing a Pool

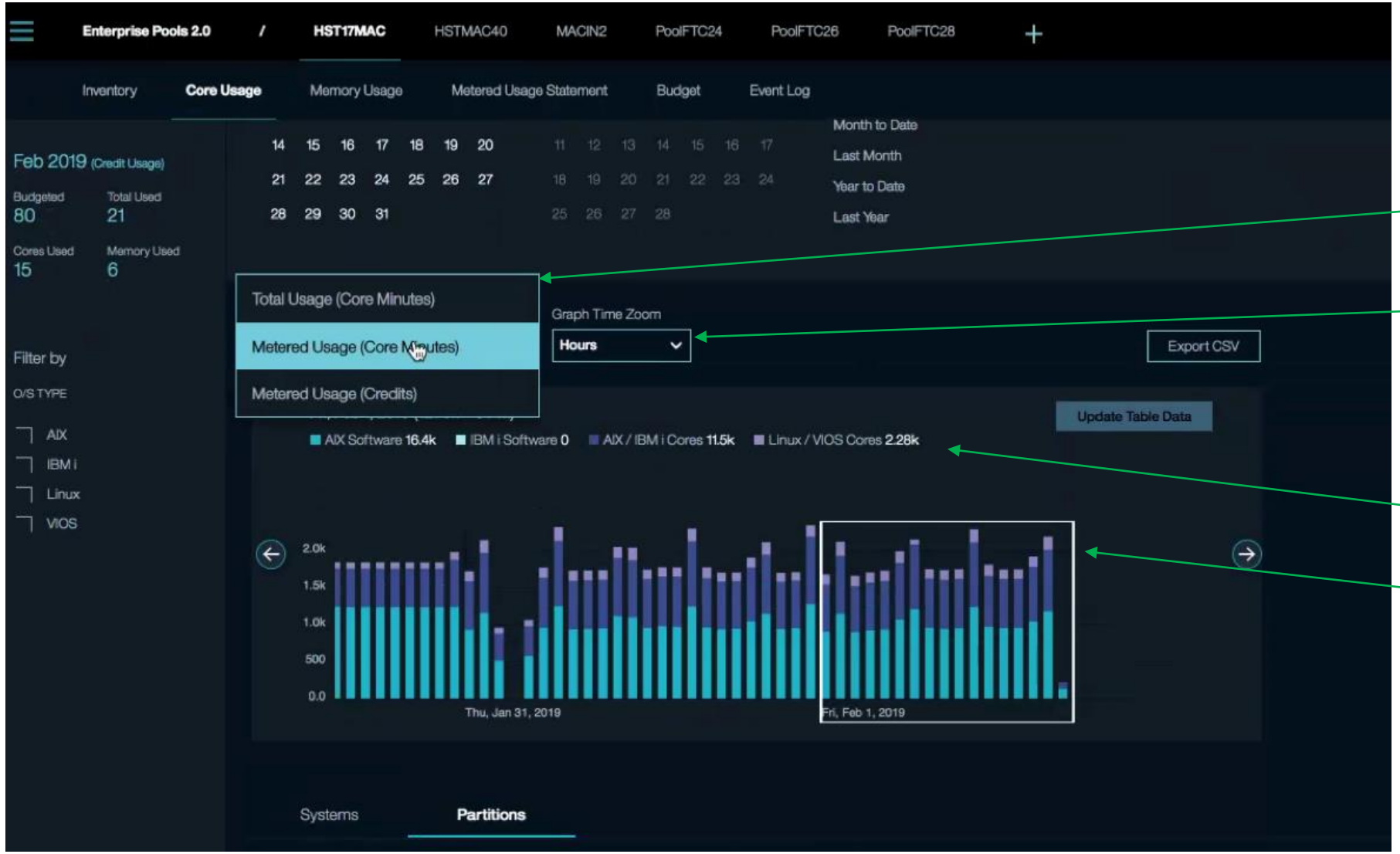
The inventory screen provides drill down capability by system and VM, and dashboard views of resources across systems, with tailorable thresholds.



In this example there are :

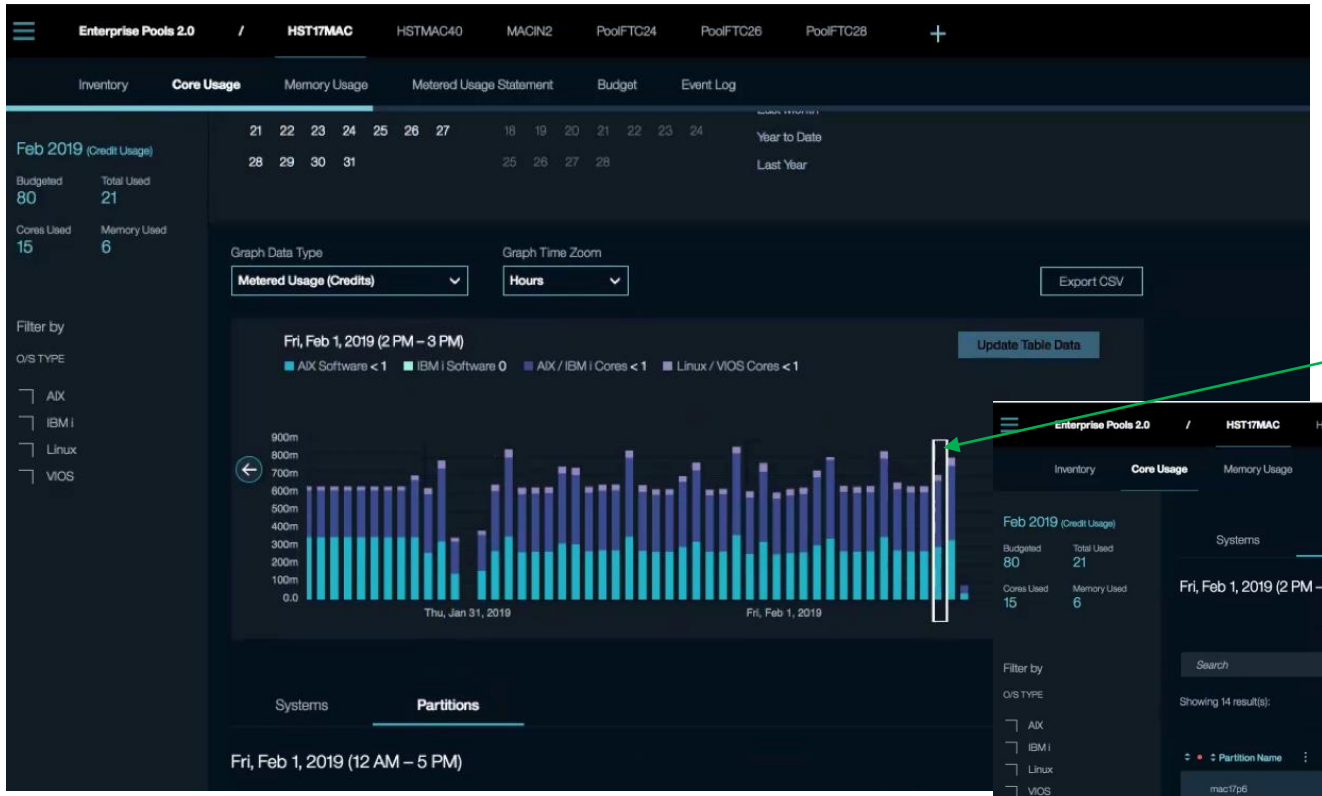
- 172 cores,8.5TB installed
- 17 Base Processor Activations (12 AIX, 5 Linux)
- 6 Base AIX license entitlements

Advanced Monitoring enables clients to track and analyze usage

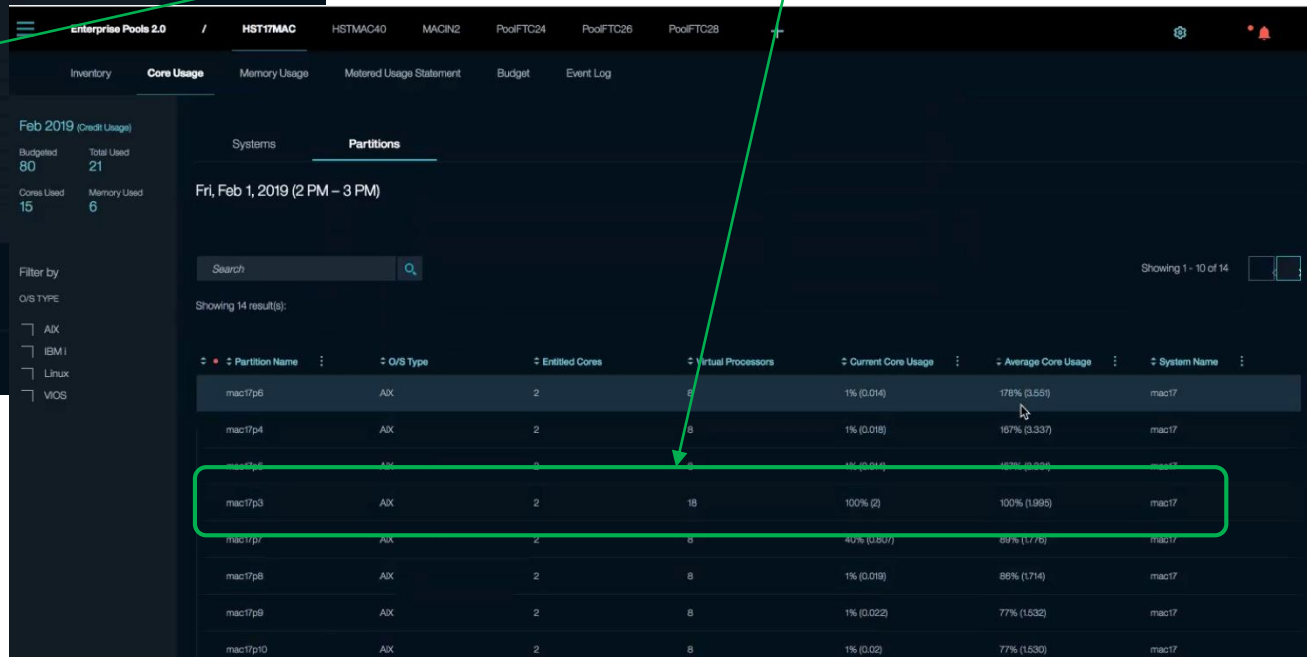


- Analyze Total or Metered Usage
- Change the Time Frame for analysis (Minute, Hour, Day, Week, Month)
- Usage by resource type
- Trending Analysis with ability to adjust time scale

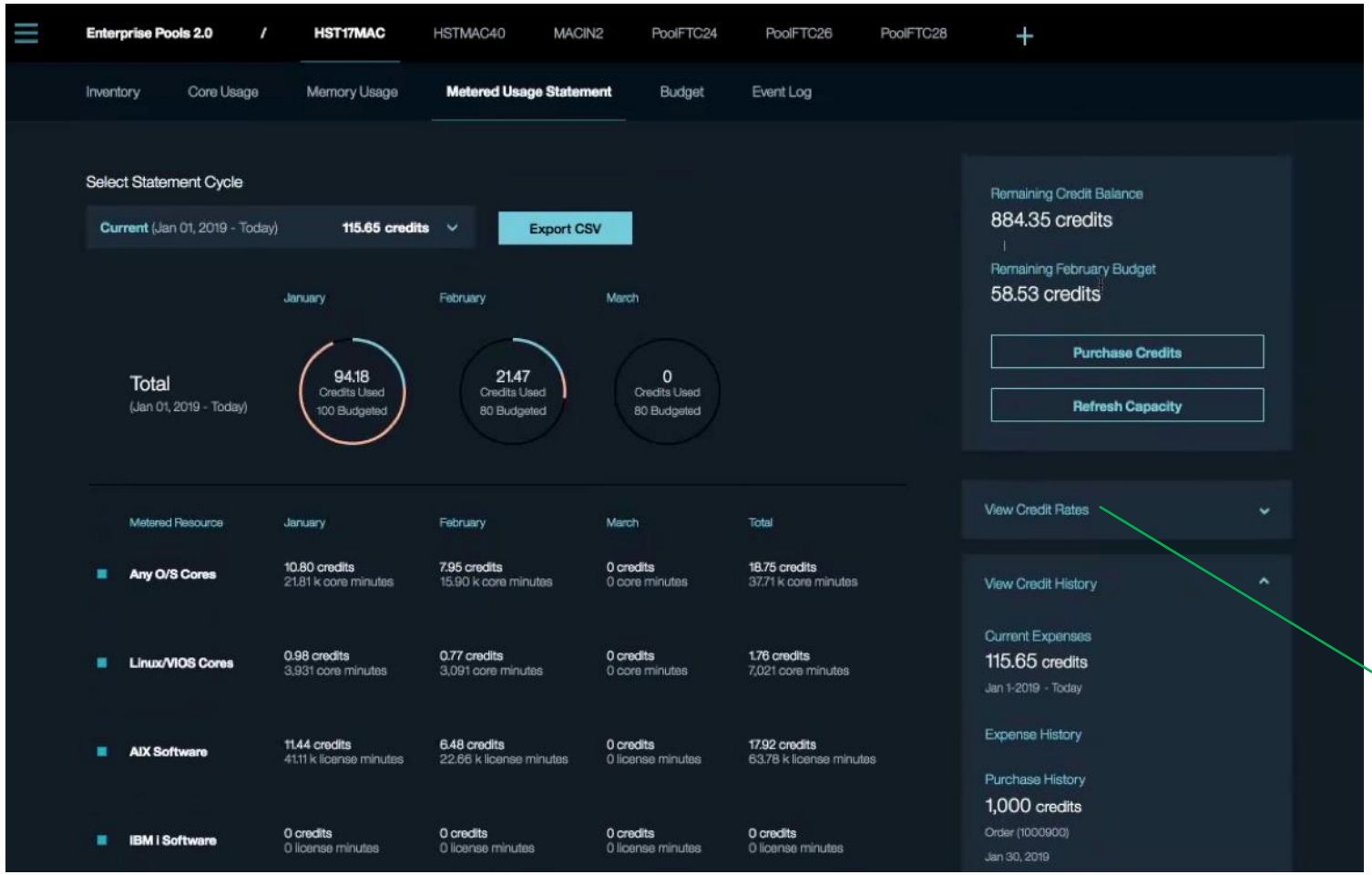
Analyze Core Usage by Time Period and Partition



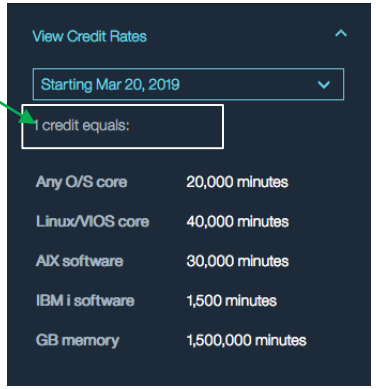
Select time period to see more detailed usage by VM - currently and during selected time period



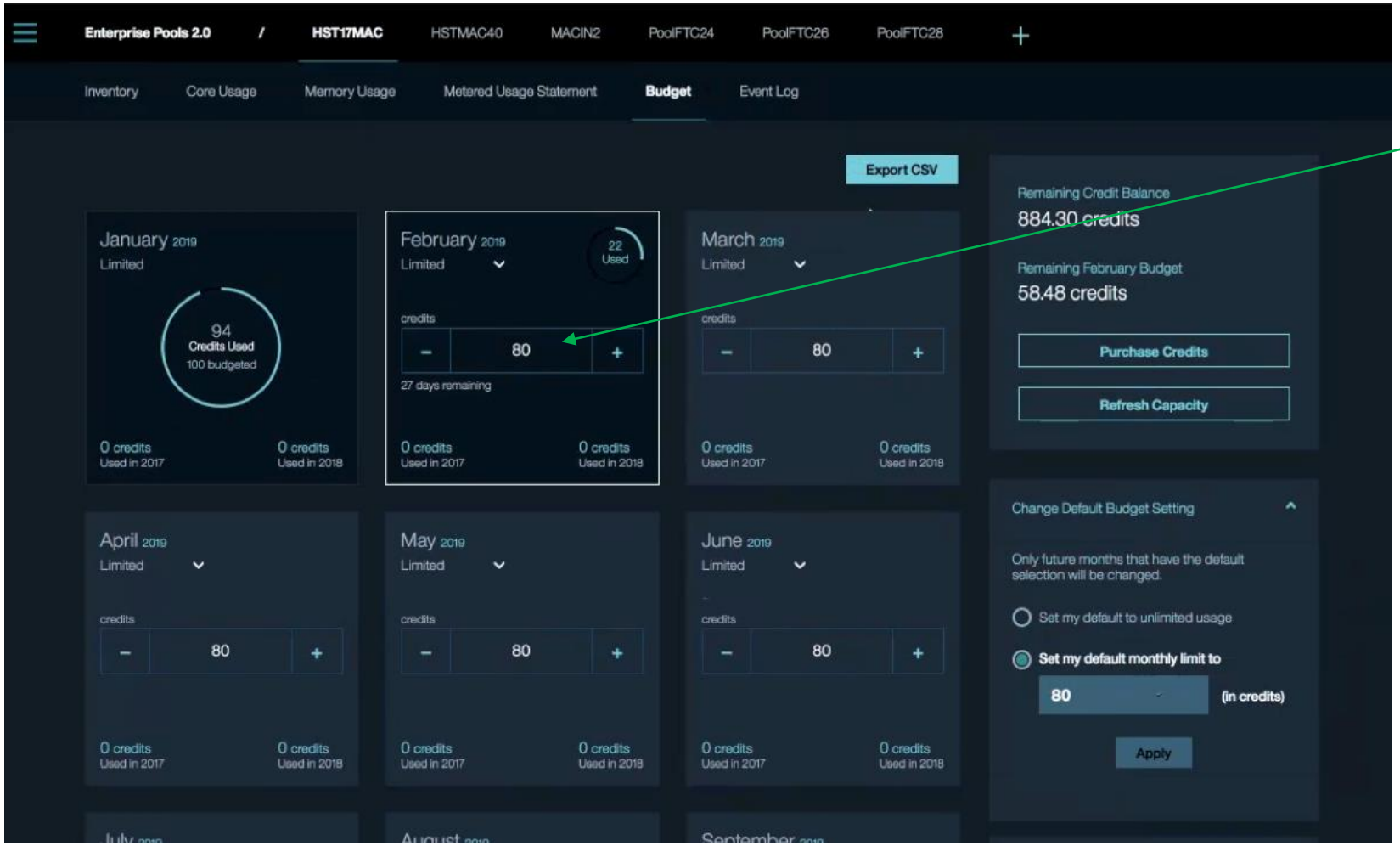
Metered Usage Statement



- Show Capacity Credits consumed and breakdown by resource
- Display Credit balance, budget status, rate table and purchase history

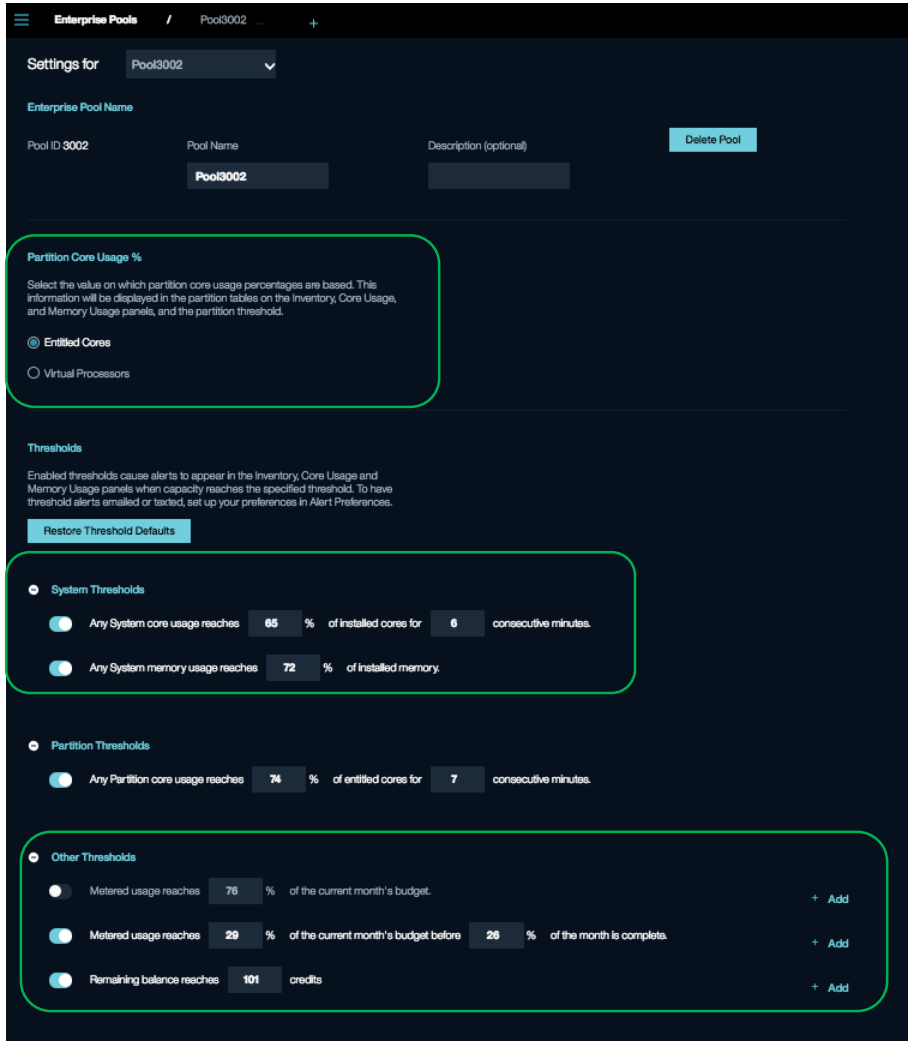


Budgeting Summary - show consumption history and budget by Month



- Change monthly Capacity budget

Tailorable Alerts & Thresholds



May be set to notify an email ID or send a text message