

Make Application Delivery Deployment
Easier, Flexible, and Cost-effective for
Your Business.

The image is a composite of two parts. On the left is a close-up, slightly blurred photograph of a green printed circuit board (PCB) with various electronic components like resistors and integrated circuits. On the right is a screenshot of a computer screen displaying a debugger's assembly window. The window has a dark background with light-colored text. The assembly code is listed on the left, and the right side shows the current instruction pointer (EIP) and the state of the instruction register (IR). The assembly code includes instructions like MOV, ADD, and MOV, with comments in Chinese. The registers window at the bottom shows the values of SI, DI, and other registers.

Assembly code displayed on the screen:

```

00401000 MOV     EAX, 00000000
00401005 ADD     EAX, 00000000
00401010 MOV     EAX, 00000000
00401015 ADD     EAX, 00000000
00401020 MOV     EAX, 00000000
00401025 ADD     EAX, 00000000
00401030 MOV     EAX, 00000000
00401035 ADD     EAX, 00000000
00401040 MOV     EAX, 00000000
00401045 ADD     EAX, 00000000
00401050 MOV     EAX, 00000000
00401055 ADD     EAX, 00000000
00401060 MOV     EAX, 00000000
00401065 ADD     EAX, 00000000
00401070 MOV     EAX, 00000000
00401075 ADD     EAX, 00000000
00401080 MOV     EAX, 00000000
00401085 ADD     EAX, 00000000
00401090 MOV     EAX, 00000000
00401095 ADD     EAX, 00000000
004010A0 MOV     EAX, 00000000
004010A5 ADD     EAX, 00000000
004010B0 MOV     EAX, 00000000
004010B5 ADD     EAX, 00000000
004010C0 MOV     EAX, 00000000
004010C5 ADD     EAX, 00000000
004010D0 MOV     EAX, 00000000
004010D5 ADD     EAX, 00000000
004010E0 MOV     EAX, 00000000
004010E5 ADD     EAX, 00000000
004010F0 MOV     EAX, 00000000
004010F5 ADD     EAX, 00000000
00401100 MOV     EAX, 00000000
00401105 ADD     EAX, 00000000
00401110 MOV     EAX, 00000000
00401115 ADD     EAX, 00000000
00401120 MOV     EAX, 00000000
00401125 ADD     EAX, 00000000
00401130 MOV     EAX, 00000000
00401135 ADD     EAX, 00000000
00401140 MOV     EAX, 00000000
00401145 ADD     EAX, 00000000
00401150 MOV     EAX, 00000000
00401155 ADD     EAX, 00000000
00401160 MOV     EAX, 00000000
00401165 ADD     EAX, 00000000
00401170 MOV     EAX, 00000000
00401175 ADD     EAX, 00000000
00401180 MOV     EAX, 00000000
00401185 ADD     EAX, 00000000
00401190 MOV     EAX, 00000000
00401195 ADD     EAX, 00000000
004011A0 MOV     EAX, 00000000
004011A5 ADD     EAX, 00000000
004011B0 MOV     EAX, 00000000
004011B5 ADD     EAX, 00000000
004011C0 MOV     EAX, 00000000
004011C5 ADD     EAX, 00000000
004011D0 MOV     EAX, 00000000
004011D5 ADD     EAX, 00000000
004011E0 MOV     EAX, 00000000
004011E5 ADD     EAX, 00000000
004011F0 MOV     EAX, 00000000
004011F5 ADD     EAX, 00000000
00401200 MOV     EAX, 00000000
00401205 ADD     EAX, 00000000
00401210 MOV     EAX, 00000000
00401215 ADD     EAX, 00000000
00401220 MOV     EAX, 00000000
00401225 ADD     EAX, 00000000
00401230 MOV     EAX, 00000000
00401235 ADD     EAX, 00000000
00401240 MOV     EAX, 00000000
00401245 ADD     EAX, 00000000
00401250 MOV     EAX, 00000000
00401255 ADD     EAX, 00000000
00401260 MOV     EAX, 00000000
00401265 ADD     EAX, 00000000
00401270 MOV     EAX, 00000000
00401275 ADD     EAX, 00000000
00401280 MOV     EAX, 00000000
00401285 ADD     EAX, 00000000
00401290 MOV     EAX, 00000000
00401295 ADD     EAX, 00000000
004012A0 MOV     EAX, 00000000
004012A5 ADD     EAX, 00000000
004012B0 MOV     EAX, 00000000
004012B5 ADD     EAX, 00000000
004012C0 MOV     EAX, 00000000
004012C5 ADD     EAX, 00000000
004012D0 MOV     EAX, 00000000
004012D5 ADD     EAX, 00000000
004012E0 MOV     EAX, 00000000
004012E5 ADD     EAX, 00000000
004012F0 MOV     EAX, 00000000
004012F5 ADD     EAX, 00000000
00401300 MOV     EAX, 00000000
00401305 ADD     EAX, 00000000
00401310 MOV     EAX, 00000000
00401315 ADD     EAX, 00000000
00401320 MOV     EAX, 00000000
00401325 ADD     EAX, 00000000
00401330 MOV     EAX, 00000000
00401335 ADD     EAX, 00000000
00401340 MOV     EAX, 00000000
00401345 ADD     EAX, 00000000
00401350 MOV     EAX, 00000000
00401355 ADD     EAX, 00000000
00401360 MOV     EAX, 00000000
00401365 ADD     EAX, 00000000
00401370 MOV     EAX, 00000000
00401375 ADD     EAX, 00000000
00401380 MOV     EAX, 00000000
00401385 ADD     EAX, 00000000
00401390 MOV     EAX, 00000000
00401395 ADD     EAX, 00000000
004013A0 MOV     EAX, 00000000
004013A5 ADD     EAX, 00000000
004013B0 MOV     EAX, 00000000
004013B5 ADD     EAX, 00000000
004013C0 MOV     EAX, 00000000
004013C5 ADD     EAX, 00000000
004013D0 MOV     EAX, 00000000
004013D5 ADD     EAX, 00000000
004013E0 MOV     EAX, 00000000
004013E5 ADD     EAX, 00000000
004013F0 MOV     EAX, 00000000
004013F5 ADD     EAX, 00000000
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00401405 ADD     EAX, 00000000
00401410 MOV     EAX, 00000000
00401415 ADD     EAX, 00000000
00401420 MOV     EAX, 00000000
00401425 ADD     EAX, 00000000
00401430 MOV     EAX, 00000000
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00401440 MOV     EAX, 00000000
00401445 ADD     EAX, 00000000
00401450 MOV     EAX, 00000000
00401455 ADD     EAX, 00000000
00401460 MOV     EAX, 00000000
00401465 ADD     EAX, 00000000
00401470 MOV     EAX, 00000000
00401475 ADD     EAX, 00000000
00401480 MOV     EAX, 00000000
00401485 ADD     EAX, 00000000
00401490 MOV     EAX, 00000000
00401495 ADD     EAX, 00000000
004014A0 MOV     EAX, 00000000
004014A5 ADD     EAX, 00000000
004014B0 MOV     EAX, 00000000
004014B5 ADD     EAX, 00000000
004014C0 MOV     EAX, 00000000
004014C5 ADD     EAX, 00000000
004014D0 MOV     EAX, 00000000
004014D5 ADD     EAX, 00000000
004014E0 MOV     EAX, 00000000
004014E5 ADD     EAX, 00000000
004014F0 MOV     EAX, 00000000
004014F5 ADD     EAX, 00000000
00401500 MOV     EAX, 00000000
00401505 ADD     EAX, 00000000
00401510 MOV     EAX, 00000000
00401515 ADD     EAX, 00000000
00401520 MOV     EAX, 00000000
00401525 ADD     EAX, 00000000
00401530 MOV     EAX, 00000000
00401535 ADD     EAX, 00000000
0040
```

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Consumption of Secure Application Services is Changing

Revered for its versatility, hybrid cloud's popularity skyrocketed over the last decade, significantly changing how infrastructure is designed and managed. Concurrently, the application landscape took on a new form. Developers began producing more cloud and container-based applications, demanding greater agility and scalability from the underlying infrastructure.

New applications are primed for growth and flexibility. Yet, the legacy licensing schemes of application delivery solutions, which are meant to improve performance and load balancing, remain static and with fixed capacity. To complicate things further, administrators running a hybrid environment are forced to manage application delivery instances across multiple clouds and on-premises, which is difficult, time consuming, and costly. While many organizations still face this disconnect, there are now new options available that can make life easier for IT administrators.

Overcoming Licensing Problems

Managing and ensuring the right license for a solution has always been a headache for enterprises and service providers. Traditional solutions with inaccurate capacity planning create monetary issues. Many businesses over-provision to ensure resource availability, which results in overspending. Others underestimate future needs and risk service outages. Both approaches require significant capital outlays and have long procurement cycles in case a customer wants to course correct. This limits IT agility and restricts business operations, prompting organizations to seek a flexible licensing model for any location that can scale as requirements grow over time.

Perpetual, fixed-capacity licenses tied to a single physical or virtual appliance will continue to exist. These are best suited for organizations with limited deployment sizes or those using a single cloud or on-premises platform.

However, in large and multi-cloud environments, license portability and scalability become extremely important.

Application workload requirements are in constant flux. Modern businesses require a licensing model that matches their need for real-time deployment flexibility. This includes support for hybrid cloud, virtual, bare metal, and on-premises deployments. Organizations that want to improve their agility and ensure automation across enterprise and cloud environments will need different options to modernize the delivery of dynamic application services.

A10 solved these problems by modernizing licensing with three options:

1. Fixed licensing for software platforms
2. Modular licensing for hardware platforms
3. FlexPool licensing for software platforms

To help you decide what licensing option is right for your organization's environment, this paper will review each option and describe use cases where they best apply.



Fixed Licensing for Software Platforms

Today, many organizations currently use a fixed capacity license for their software-based solution. In these situations, the business downloads and installs an appliance and then activates it with their license based on how much bandwidth throughput it needs. Purchasing options are either perpetual or in increments such as one- and three-year subscriptions. However, licenses are locked and are not portable or flexible to increase bandwidth if the need arises. This is suited for organizations with a predictable model and knowledge of the exact requirements for the next three to five years.

Benefits of Fixed Licensing

- Cost-effective solution for those who have static deployments and a good understanding of current and future traffic volume
- Positive CAPEX model for long-term static deployments
- Effective OPEX model for tighter budgets

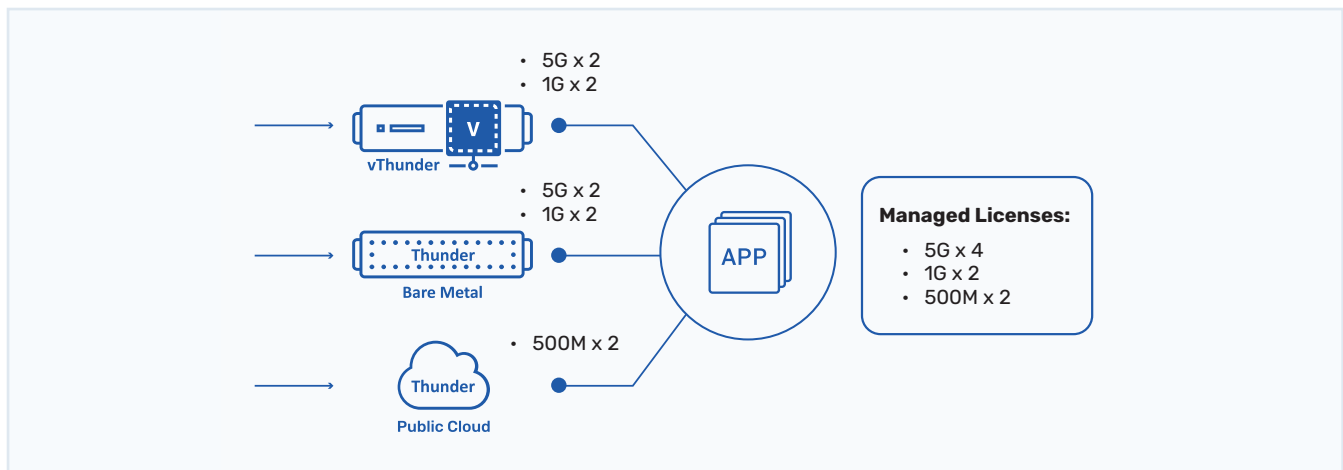


Figure 1: Individual bandwidth is licensed on each product. In this case, total managed licenses are 4x 5Gbps, 2x 5Gbps and 2x 500Mbps.



When to Use a Fixed Capacity License

Maintaining Stable and Consistent Services with a Cost-effective Solution

The fixed model licensing option is straightforward to manage because it has one license per appliance. It's also the best choice if your organization is small and has a predictable model with a set-and-forget deployment.

Modular Licensing for Hardware Platforms

Historically, if your hardware worked and technology providers supported the software, organizations could pay once and use it for the life of the platform. As traffic grows and application delivery and security requirements demand higher throughput and capacity, organizations need a way to scale up service capacity without replacing the hardware.

Modular licensing solves this by decoupling hardware and software layers. Doing so allows an organization to scale up dynamically with just a license update on the software. **This is broken down as:**

Benefits of Modular Licensing

- Pay-as-you-grow licensing model
- Allows capacity upgrades with the same hardware for future growth
- Provides a budget friendly OPEX model

- **Zero-capacity hardware:** Allows the purchasing of a hardware platform that can scale over time
- **Software with modular capacity license:** An organization can pay for the capacity they currently need and also upgrade the license to unlock capacity and throughput as demands increase

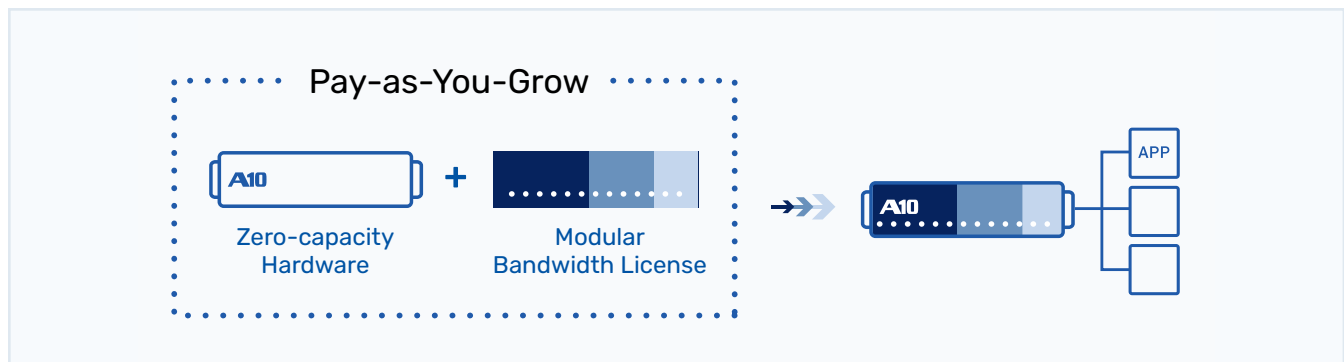


Figure 2: Pay-as-you-grow model, allowing capacity upgrades without replacing the hardware to support future growth.



When to Use a Modular License

Ensuring Service Quality and Improving Resiliency for Critical Apps and Workloads

Accurately predicting current and future service volume/capacity, including seasonality, is key for better operation. When the capacity is insufficient and requires hardware replacement, organizations will incur maintenance and downtime, along with an extra cost for purchasing new hardware. In these instances, modular licensing allows organizations to increase capacity to maintain their service level without replacing the hardware appliance. Should they need to upgrade capacity, it is done in the background, without affecting or interrupting service.



Building a Cost-efficient and Scalable Solution that is Primed for Future Growth

Organizations on a tight budget from day-one, that want to be ready to grow, no longer have to worry about paying for full capacity from the start. With a modular license, they can purchase a higher-end capacity appliance that can scale as the demand grows. As the business expands, they can upgrade the capacity by updating the software license, without replacing the hardware, to meet demands and ensure service quality.

FlexPool Licensing for Software Platforms

Network and service capacity are difficult to determine in homogenous environments. This becomes even more complex when distributed across multiple clouds and on-premises data centers in a hybrid environment. Flexible capacity licensing offers greater value, lower costs, and portability to allow for future capacity planning. It gives organizations the choice they want with a pool of licenses that can move across virtual, bare metal, and hybrid cloud infrastructures.

With flexible licensing, organizations can dynamically and flexibly allocate capacity and share the pool as needed—anywhere and anytime. This prevents service disruption because administrators can mix and match instances and create them instantly and scale them for on-demand consumption.

Benefits of FlexPool Licensing

- The most flexible and operational-friendly solution for multi-cloud deployment, allocating capacity depending on each site's needs
- Dynamic, automated and/or DevOps-friendly operation: moving, re-allocating and adjusting capacity as needed across any clouds
- Predictive OPEX model with efficient centralized license control
- Additional capacity can be added to the same pool

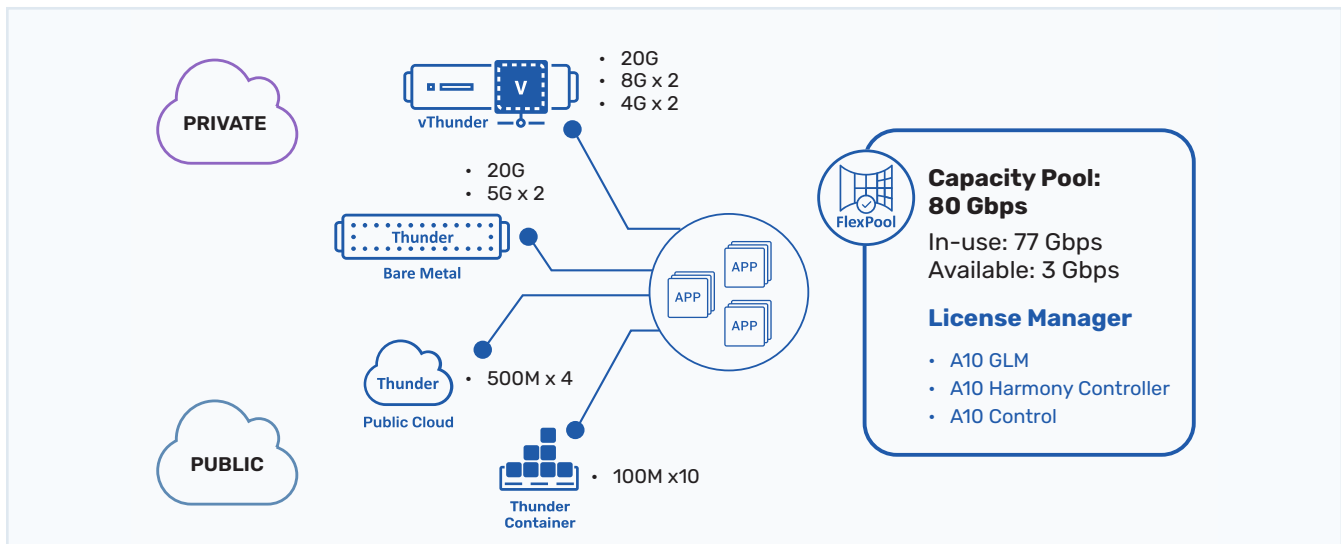


Figure 3: Capacity pooled licensing that allows flexible capacity allocation and license portability across any clouds.



When to Use a Flexible License

Migrating Infrastructure to a Modern Approach

Whether virtualization, DevOps, or automation, to support modern service architecture, the solution needs to be flexible, portable and scalable.

This can happen in three ways:

1

The instance capacity can be scalable/changeable

License needs to allow either increase or decrease

2

The instance can move to another host or location

License needs to be migrated/transferred

3

The instance can be replaced with newly created instance for software upgrades, troubleshooting purpose, etc.

License need to be re-allocated to a new instance

Flexible licensing can easily achieve any or all of these three processes and can automate the workflow to increase operational efficiency.

Building a Multi-cloud Application Service

Across Multiple Clouds

Organizations that are cloud-first, and looking to deploy software-based solutions, should consider FlexPool as their first option. With clouds, there may be license restrictions for portability across public clouds or between private and public clouds. These complexities can make license and cost management challenging. With FlexPool licenses, organizations can have their pick of cloud environments and share capacity across different clouds. Administrators can release capacity instantly and allocate to a new cloud without slowdowns.



Conclusion

Improving the efficiency in consumption of secure application delivery doesn't have to be hard.

With A10, you can choose a licensing model that best suits your environment.

Fixed Licensing

For smaller organizations using on-premises or a single cloud with a static deployment and predictable traffic volume.

Modular Licensing

For hardware solution users needing a cost-efficient and scalable service that is primed for growth with a pay-as-you-grow model

FlexPool Capacity Licensing

For software users requiring a modern approach to build multi- and hybrid-cloud application delivery infrastructure; best suited for deploying several software-based appliances, anywhere

By providing flexible options for managing capacity and software licenses, customers can achieve greater business value, easy license portability, and ongoing innovation.

No matter your use case for secure application services, you can efficiently plan capacity and licensing expenses while preparing for future infrastructure environments.



Next Steps

Experience secure, agile, and programmable application delivery with A10 vThunder with our 30-day free trial at: www.a10networks.com/products/vthunder-trial/

About A10 Networks

A10 Networks provides security and infrastructure solutions for on-premises, hybrid cloud, and edge-cloud environments. Our 7000+ customers span global large enterprises and communications, cloud and web service providers who must provide business-critical applications and networks that are secure, available, and efficient. Founded in 2004, A10 Networks is based in San Jose, Calif. and serves customers globally.

For more information, visit: A10Networks.com or tweet [@a10networks](https://twitter.com/a10networks)

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