ClearPass Policy Manager

INTRODUCTION

ClearPass 6.7 introduces a new licensing methodology that aims to simplify ordering, offer customers an easier to understand model and ultimately provide more value and flexibility. This new methodology includes the following high-level changes:

- Ability to order appliances (hardware or virtual) independent of capacity licenses.
- Bundling of guest licensing into a new license type called Access. The Access license includes 802.1X, MAC Authentication, TACACS+, Guest, OnConnect, Security Exchange (previously ClearPass Exchange) and Endpoint Profiling functionality.
- Access licenses are consumed based upon concurrent authenticated/authorized endpoints.
- Onboard licenses are now consumed based upon the number of users and not per device.

APPLIANCE & APPLICATION LICENSE SKUS

Appliances

ClearPass appliances (hardware or virtual) are available for purchase using the following SKUs. Hardware specifications and scaling details are provided later in this document.

Hardware Appliances[1]	
Part Number	Description
JZ508A	Aruba ClearPass C1000 S-1200 R4 HW-Based Appliance
JZ509A	Aruba ClearPass C2000 DL20 Gen9 HW-Based Appliance
JZ510A	Aruba ClearPass C3000 DL360 Gen9 HW-Based Appliance

[1] One year parts warranty and can be extended with a support contract.

Virtual Appliances[2]	
Part Number	Description
JZ399AAE	Aruba ClearPass Cx000V VM-Based Appliance E-LTU

[2] **This single SKU is used to order a Virtual Appliance irrespective of model type, e.g. C1000V**

Application Licenses

ClearPass application licenses are available in three types, Access, Onboard and OnGuard. They are available as perpetual and subscription-based licenses

ACCESS LICENSES

The Access license is used to enable 802.1X, MAC Authentication, TACACS+, Guest, OnConnect, Security Exchange (previously ClearPass Exchange) and Endpoint Profiling. Access license consumption is based upon a concurrent session per-endpoint model. Security Exchange and Endpoint Profiling are enabled when any Access license is installed but not restricted to any

licensed capacity limits.

A session is considered active when an endpoint is authenticated/authorized and actively connected to the network. When a new endpoint establishes a session, an Access license is removed from the pool. When the endpoint discontinues the session, an Access license is returned to the pool. Session checks are performed every 15 minutes. If the session end cannot be identified (e.g. no accounting), the license will be removed from the pool for a period of 24 hours from the time the endpoint authenticated/authorized and connected to the network.

The method to determine an active session depends on the access method per the following table.

Access Method	Session Begins	Session Ends
802.1X	RADIUS Accounting START	RADIUS Accounting STOP
MAC Authentication	RADIUS Accounting START	RADIUS Accounting STOP
Guest	RADIUS Accounting START	RADIUS Accounting STOP
VPN	RADIUS Accounting START	RADIUS Accounting STOP
TACACS+	TACACS+ Accounting START	TACACS+ Accounting STOP
OnConnect	MAC Learned (mac-notify or link-up)	MAC Removed/Aged (mac-notify or link-down)

Access licenses are available as perpetual or subscription based licenses from 100 to 10K concurrent endpoints. Multiple Access licenses can be installed on a standalone appliance or cluster for increased licensed capacity, for example 100+100+100 = 300. Subscription licenses (which include support) are tracked both on licensed capacity and term. If two subscription licenses are installed 6 months apart, the total term will be one and a half years however in the last 6 months, the licensed capacity will drop to the remaining valid subscription.

Access licenses are available per the following table.

Access Licenses – Perpetual[3]	
Part Number	**Description**
JZ400AAE	Aruba ClearPass New Licensing Access 100 Concurrent Endpoints E-LTU
JZ401AAE	Aruba ClearPass New Licensing Access 500 Concurrent Endpoints E-LTU
JZ402AAE	Aruba ClearPass New Licensing Access 1K Concurrent Endpoints E-LTU
JZ403AAE	Aruba ClearPass New Licensing Access 2500 Concurrent Endpoints E-LTU
JZ404AAE	Aruba ClearPass New Licensing Access 5K Concurrent Endpoints E-LTU
JZ405AAE	Aruba ClearPass New Licensing Access 10K Concurrent Endpoints E-LTU

[3] **Includes 90-day software warranty and can be extended with a support contract.**

Access Licenses – Subscription 1 Year	
Part Number	**Description**
JZ409AAE	Aruba ClearPass New Licensing Access 100 Concurrent Endpoints 1yr E-STU
JZ410AAE	Aruba ClearPass New Licensing Access 500 Concurrent Endpoints 1yr E-STU
JZ411AAE	Aruba ClearPass New Licensing Access 1K Concurrent Endpoints 1yr E-STU
JZ412AAE	Aruba ClearPass New Licensing Access 2500 Concurrent Endpoints 1yr E-STU
JZ413AAE	Aruba ClearPass New Licensing Access 5K Concurrent Endpoints 1yr E-STU
JZ414AAE	Aruba ClearPass New Licensing Access 10K Concurrent Endpoints 1yr E-STU

Access Licenses – Subscription 3 Year

Part Number	Description
JZ418AAE	Aruba ClearPass New Licensing Access 100 Concurrent Endpoints 3yr E-STU
JZ419AAE	Aruba ClearPass New Licensing Access 500 Concurrent Endpoints 3yr E-STU
JZ420AAE	Aruba ClearPass New Licensing Access 1K Concurrent Endpoints 3yr E-STU
JZ421AAE	Aruba ClearPass New Licensing Access 2500 Concurrent Endpoints 3yr E-STU
JZ422AAE	Aruba ClearPass New Licensing Access 5K Concurrent Endpoints 3yr E-STU
JZ423AAE	Aruba ClearPass New Licensing Access 10K Concurrent Endpoints 3yr E-STU

Access Licenses – Subscription 5 Year

Part Number	Description
JZ427AAE	Aruba ClearPass New Licensing Access 100 Concurrent Endpoints 5yr E-STU
JZ428AAE	Aruba ClearPass New Licensing Access 500 Concurrent Endpoints 5yr E-STU
JZ429AAE	Aruba ClearPass New Licensing Access 1K Concurrent Endpoints 5yr E-STU
JZ430AAE	Aruba ClearPass New Licensing Access 2500 Concurrent Endpoints 5yr E-STU
JZ431AAE	Aruba ClearPass New Licensing Access 5K Concurrent Endpoints 5yr E-STU
JZ432AAE	Aruba ClearPass New Licensing Access 10K Concurrent Endpoints 5yr E-STU

ONBOARD LICENSES

The Onboard license is used to enable automated provisioning and the creation of unique device identity certificates for any Windows, macOS, iOS, Android, ChromeOS, and Linux devices via a user driven, self-guided portal. Onboard license consumption beginning with ClearPass 6.7 is based upon an active certificate per-user model. For example, if a given user has four devices with an active certificate each, only one Onboard license is required. If over time, three out of the four devices are retired, and their associated certificates revoked, the fourth device certificate being active will still keep the Onboard license associated to the user. The intentional onboarding of large numbers of devices by a single user to avoid purchasing Onboard licenses is a violation of the End-User Software License Agreement.

Onboard licenses are available as perpetual or subscription based licenses from 100 to 10K concurrent endpoints. Multiple Onboard licenses can be installed on a standalone appliance or cluster for increased licensed capacity, for example 100+100+100 = 300. Subscription licenses (which include support) are tracked both on licensed capacity and term. If two subscription licenses are installed 6 months apart, the total term will be one and a half years however in the last 6 months, the licensed capacity will drop to the remaining valid subscription.

Onboard licenses are available per the following table.

Onboard Licenses – Perpetual[3]

Part Number	Description
JZ436AAE	Aruba ClearPass New Licensing Onboard 100 Users E-LTU
JZ437AAE	Aruba ClearPass New Licensing Onboard 500 Users E-LTU
JZ438AAE	Aruba ClearPass New Licensing Onboard 1K Users E-LTU
JZ439AAE	Aruba ClearPass New Licensing Onboard 2500 Users E-LTU

| JZ440AAE | Aruba ClearPass New Licensing Onboard 5K Users E-LTU |
| JZ441AAE | Aruba ClearPass New Licensing Onboard 10K Users E-LTU |

[3] **Includes 90-day software warranty and can be extended with a support contract.**

Onboard Licenses – Subscription 1 Year

Part Number	Description
JZ445AAE	Aruba ClearPass New Licensing Onboard 100 Users 1yr E-STU
JZ446AAE	Aruba ClearPass New Licensing Onboard 500 Users 1yr E-STU
JZ447AAE	Aruba ClearPass New Licensing Onboard 1K Users 1yr E-STU
JZ448AAE	Aruba ClearPass New Licensing Onboard 2500 Users 1yr E-STU
JZ449AAE	Aruba ClearPass New Licensing Onboard 5K Users 1yr E-STU
JZ450AAE	Aruba ClearPass New Licensing Onboard 10K Users 1yr E-STU

Onboard Licenses – Subscription 3 Year

Part Number	Description
JZ454AAE	Aruba ClearPass New Licensing Onboard 100 Users 3yr E-STU
JZ455AAE	Aruba ClearPass New Licensing Onboard 500 Users 3yr E-STU
JZ456AAE	Aruba ClearPass New Licensing Onboard 1K Users 3yr E-STU
JZ457AAE	Aruba ClearPass New Licensing Onboard 2500 Users 3yr E-STU
JZ458AAE	Aruba ClearPass New Licensing Onboard 5K Users 3yr E-STU
JZ459AAE	Aruba ClearPass New Licensing Onboard 10K Users 3yr E-STU

Onboard Licenses – Subscription 5 Year

Part Number	Description
JZ463AAE	Aruba ClearPass New Licensing Onboard 100 Users 5yr E-STU
JZ464AAE	Aruba ClearPass New Licensing Onboard 500 Users 5yr E-STU
JZ465AAE	Aruba ClearPass New Licensing Onboard 1K Users 5yr E-STU
JZ466AAE	Aruba ClearPass New Licensing Onboard 2500 Users 5yr E-STU
JZ467AAE	Aruba ClearPass New Licensing Onboard 5K Users 5yr E-STU
JZ468AAE	Aruba ClearPass New Licensing Onboard 10K Users 5yr E-STU

ONGUARD LICENSES

ClearPass OnGuard leverages persistent and dissolvable agents to perform advanced endpoint posture assessments over wireless, wired and VPN connections. OnGuard's health-check capabilities ensure compliance and network safeguards before devices connect.

OnGuard license consumption is based upon a per-endpoint model. For example, if the OnGuard persistent agent is to be installed (persistent agent) or used (dissolvable agent) on five endpoints within a 24-hour period, five OnGuard licenses are required.

OnGuard licenses are available as perpetual or subscription based licenses from 100 to 10K concurrent endpoints. Multiple OnGuard licenses can be installed on a standalone appliance or cluster for increased licensed capacity, for example 100+100+100 = 300. Subscription licenses (which include support) are tracked both on licensed capacity and term. If two

subscription licenses are installed 6 months apart, the total term will be one and a half years however in the last 6 months, the licensed capacity will drop to the remaining valid subscription.

OnGuard licenses are available per the following table.

OnGuard Licenses – Perpetual[3]	
Part Number	Description
JZ436AAE	Aruba ClearPass New Licensing OnGuard 100 Endpoints E-LTU
JZ437AAE	Aruba ClearPass New Licensing OnGuard 500 Endpoints E-LTU
JZ438AAE	Aruba ClearPass New Licensing OnGuard 1K Endpoints E-LTU
JZ439AAE	Aruba ClearPass New Licensing OnGuard 2500 Endpoints E-LTU
JZ440AAE	Aruba ClearPass New Licensing OnGuard 5K Endpoints E-LTU
JZ441AAE	Aruba ClearPass New Licensing OnGuard 10K Endpoints E-LTU

[3] **Includes 90-day software warranty and can be extended with a support contract.**

OnGuard Licenses – Subscription 1 Year	
Part Number	Description
JZ481AAE	Aruba ClearPass New Licensing OnGuard 100 Endpoints 1yr E-STU
JZ482AAE	Aruba ClearPass New Licensing OnGuard 500 Endpoints 1yr E-STU
JZ483AAE	Aruba ClearPass New Licensing OnGuard 1K Endpoints 1yr E-STU
JZ484AAE	Aruba ClearPass New Licensing OnGuard 2500 Endpoints 1yr E-STU
JZ485AAE	Aruba ClearPass New Licensing OnGuard 5K Endpoints 1yr E-STU
JZ486AAE	Aruba ClearPass New Licensing OnGuard 10K Endpoints 1yr E-STU

OnGuard Licenses – Subscription 3 Year	
Part Number	Description
JZ490AAE	Aruba ClearPass New Licensing OnGuard 100 Endpoints 3yr E-STU
JZ491AAE	Aruba ClearPass New Licensing OnGuard 500 Endpoints 3yr E-STU
JZ492AAE	Aruba ClearPass New Licensing OnGuard 1K Endpoints 3yr E-STU
JZ493AAE	Aruba ClearPass New Licensing OnGuard 2500 Endpoints 3yr E-STU
JZ494AAE	Aruba ClearPass New Licensing OnGuard 5K Endpoints 3yr E-STU
JZ495AAE	Aruba ClearPass New Licensing OnGuard 10K Endpoints 3yr E-STU

SIZING & SCALING

ClearPass appliance specifications do not change with ClearPass 6.7, however the method by which you size and scale them does. In the legacy licensing model, multiple 500, 5K or 25K based appliances are added up to meet the licensing requirements. In ClearPass 6.7, the license component is separated from the actual appliance component.

When creating a bill of materials, the following method should be used:

1. Identify the features required.
2. Identify the load/performance required.

Identify the Features Required

ClearPass licensed features fall into three categories, Access, Onboard and OnGuard. Depending on the features required you may use one or all of them in a given environment.

- If you require 802.1X, MAC Authentication, TACACS+, Guest, OnConnect, Security Exchange (previously ClearPass Exchange and/or Endpoint Profiling then Access Licenses are needed.

  o Access license consumption is based upon a 24-hour concurrent session per-endpoint model

- If you require automated provisioning including the creation of unique device identity certificates then Onboard Licenses are needed.

  o Onboard license consumption is based upon an active certificate per-user model.

- If you require health-check capabilities to ensure endpoint posture compliance and network safeguards before devices connect then OnGuard Licenses are needed.

  o OnGuard license consumption is based upon a 24-hour per-endpoint model.

ACCESS LICENSES

To better understand how Access licenses are consumed, consider the following use case:

- 6,000 endpoints using a mix of username/password and certificate (Corp/BYOD) based authentication

- 2,000 IoT endpoints that use MAC address authentication

- 1,000 guest endpoints that use self-registration or social logins

Given that all authentication methods are equal, we have 9,000 endpoints in total to consider. However, we are only concerned with the maximum number of users concurrently authenticated/authorized.

If we believe that ALL the endpoints will be concurrently connected to the network, we will need to license for 9,000. However, given the network data available (e.g. DHCP max pool size and lease times, max firewall session usage, etc), we are able to determine that only 6,000 endpoints are ever concurrently connected to the network and therefore we only need 6,000 Access licenses.

ONBOARD LICENSES

To better understand how Onboard licenses are consumed, consider the following use case:

- 500 users that can onboard their devices as per the BYOD policy. It is estimated that these 500 users have a total of 1,500 devices based upon network usage.

We just need 500 Onboard licenses since the user count is all we care about. The 1,500 devices do not matter. Additionally, Onboard licenses are consumed regardless whether the device is connected to the network or not. The license is consumed as long as there is at least one active certificate associated with a given user.

ONGUARD LICENSES

To better understand how OnGuard licenses are consumed, consider the following use case:

- 2,500 endpoints that have OnGuard installed

OnGuard is going to be installed on 3,000 endpoints so we just need 3,000 OnGuard licenses.

LICENSE SUMMARY

Given the above examples, we will need the following licenses assuming perpetual licenses:

- 6,000 Access Licenses: JZ404AAE (Includes 5,000) + JZ402AAE (Includes 1,000)

- 500 Onboard Licenses: JZ437AAE (Includes 500)

- 2,500 OnGuard Licenses: JZ475AAE (Includes 2,500)

Identify the load/performance Required

When sizing the appliances, we are concerned with two types of values, burst rate for any given application that will be used and max concurrency. These values differ depending on the appliance. ClearPass hardware appliances have the following specifications.

	C1000 Hardware Appliance (JZ508A)	C2000 Hardware Appliance (JZ509A)	C3000 Hardware Appliance (JZ510A)
APPLIANCE SPECIFICATIONS			
Hardware Model	Unicom S-1200 R4	HPE DL20 Gen 9	HPE DL360 Gen 9
CPU	(1) Eight Core 2.4GHz Atom C2758	(1) Xeon 3.5Ghz E3-1240v5 with Four Cores (8 Threads)	(2) Xeon 2.4GHz E5-2620_V3 with Six Cores (12 Threads)
Memory	8 GB	16 GB	64 GB
Hard Drive Storage	(1) SATA (7.3K RPM) 1TB hard drive	(2) SATA (7.2K RPM) 1TB hard drives, RAID-1 controller	(6) SAS (10K RPM) 600GB Hot-Plug hard drives, RAID-10 controller
Out of Band Management	N/A	HPE Integrated Lights-Out (iLO) Standard	HPE Integrated Lights-Out (iLO) Advanced
Serial Port	Yes (RJ-45)	Yes (Virtual Serial via iLO)	Yes (DB-9)
APPLIANCE SPECIFICATIONS			
Rackmount	Included	1U SFF Easy Install Rail 1U Cable Management Arm	17.1" x 1.7" x 27.5"
Dimensions (WxHxD)	17.2" x 1.7" x 11.3"	17.11" x 1.70" x 15.05"	17.1" x 1.7" x 27.5"
Weight (Max Config)	8.5 Lbs	Up to 19.18 Lbs	Up to 33.3 Lbs
POWER			
Power Supply	200 watts max	HPE 900W AC 240VDC Power Input FIO Module[4]	HPE 500W Flex Slot Platinum Hot Plug Power Supply
Power Redundancy	N/A	Optional	Optional
AC Input Voltage	100/240 VAC auto-selecting	100/240 VAC auto-selecting	100/240 VAC auto-selecting
AC Input Frequency	50/60 Hz auto-selecting	50/60 Hz auto-selecting	50/60 Hz auto-selecting
ENVIRONMENTAL			
Operation Temperature	5° C to 35° C (41° F to 95° F)	10° to 35°C (50° to 95°F)	10° to 35°C (50° to 95°F)

Operation Vibration	0.25 G at 5 Hz to 200 Hz for 15 minutes	Random vibration at 0.000075 G²/Hz, 10Hz to 300Hz, (0.15 G's nominal)	Random vibration at 0.000075 G²/Hz, 10Hz to 300Hz, (0.15 G's nominal)
Operation Shock	1 shock pulse of 20 G for up to 2.5 ms	2 G's	2 G's
Operating Altitude	-16 m to 3,048 m (-50 ft to 10,000 ft)	3,050 m (10,000 ft)	3,050 m (10,000 ft)

[4] The HPE 900W Redundant Power Supply supports100VAC to 240VAC and also supports 240VDC.

Virtual appliances require similar resource specifications to ensure a consistent ClearPass experience regardless of hardware or virtual appliance. In ClearPass 6.7, the virtual appliance SKU is a single SKU that can be used for all virtual variants of virtual appliances. The virtual variant merely adds the letter 'V' to the end of the model number.

ClearPass is currently supported on the following hypervisors:

- VMware vSphere Hypervisor (ESXi) 5.5, 6.0, 6.5, and 6.5 U1

- Microsoft Hyper-V Server 2012 R2 and 2016, Windows Server 2012 R2 with Hyper-V, and Windows Server 2016 with Hyper-V

- KVM on CentOS 6.6, 6.7 and 6.8
    - ClearPass 6.7 support for KVM is not yet released.

	C1000 Virtual Appliance (JZ399AAE)	**C3000 Virtual Appliance (JZ399AAE)**	**C3000 Virtual Appliance (JZ399AAE)**
APPLIANCE SPECIFICATIONS			
CPU	8 reserved virtual CPUs (Underlying CPU is recommended to have a PassMark® of 3000 or higher)	8 reserved virtual CPUs (Underlying CPU is recommended to have a PassMark® of 9600 or higher)	24 reserved virtual CPUs (Underlying CPUs are recommended to have a PassMark® of 9900 or higher)
Memory	8 GB	Minimum 8 GB RAM Recommended: 16GB	64 GB
Hard Drive Storage	1000 GB disk space required (Installation will generate a primary and backup partition)	1000 GB disk space required (Installation will generate a primary and backup partition)	1800 GB disk space required (Installation will generate a primary and backup partition)
Network Interfaces	2 Gigabit virtual switched ports	2 Gigabit virtual switched ports	2 Gigabit virtual switched ports
Functional IOP rating (40-60 read/write profile for 4K random read/write)	75	105	350

APPLIANCE PERFORMANCE

The ClearPass hardware appliance have the following performance characteristics. Virtual appliances with identical specifications should yield similar results.

Performance Summary			
	C1000 Hardware Appliance (JZ508A)	**C2000 Hardware Appliance (JZ509A)**	**C3000 Hardware Appliance (JZ510A)**
ClearPass Version	6.7.0	6.7.0	6.7.0
Maximum Concurrent Sessions	1,000	10,000	50,000
RADIUS Performance	See RADIUS Performance Table		
TACACS+ Performance	See TACACS+ Performance Table		
Guest Web Login[5]	60 auths/second	224 auths/second	334 auths/second
Guest Self-Registration	Testing in Progress	Testing in Progress	77 reqs/second
Onboard	Testing in Progress	Testing in Progress	10 reqs/second
OnGuard[6]	14 clients/sec	38 clients/sec	66 clients/second

[5] Assumes role-mapping + enforcement policy.
[6] Assumes role-mapping + posture check + enforcement policy

RADIUS Performance[7]					
Auth. Outer Method	**Auth Inner Method**	**Authentication Source**	**C1000 Hardware Appliance (JZ508A)**	**C2000 Hardware Appliance (JZ509A)**	**C3000 Hardware Appliance (JZ510A)**
PAP	N/A	Local Database	117	362	448
PAP	N/A	Active Directory	109	433	470
PEAP	EAP-GTC	Local Database	68	200	393
PEAP	EAP-GTC	Active Directory	98	203	418
PEAP	EAP-MSCHAPv2	Local Database	65	203	384
PEAP	EAP-MSCHAPv2	Active Directory	76	210	392
EAP-TTLS	EAP-GTC	Local Database	64	204	403
EAP-TTLS	EAP-GTC	Active Directory	89	211	432
EAP-TTLS	EAP-MSCHAPv2	Local Database	68	202	405
EAP-TTLS	EAP-MSCHAPv2	Active Directory	84	199	416
EAP-TLS	N/A	Local Database	69	194	360
EAP-TLS	N/A	Active Directory	84	198	376

[7] Testing performed in lab conditions.

TACACS+ Summary[8]			
Authentication Source	C1000 Hardware Appliance (JZ508A)	C2000 Hardware Appliance (JZ509A)	C3000 Hardware Appliance (JZ510A)
Local Database	45	183	259
Active Directory	42	186	268

[8] **Each request contains 1 Authentication + Enable + Authorization**.

EVALUATING PERFORMANCE

As mentioned earlier, we are concerned with two types of values when sizing appliances, burst rate for any given feature used and max concurrency. To better understand the relationship of these two values, consider the following use case:

- 9,000 endpoints using a mix of username/password using active directory over the course of the day

- No more than 7,000 endpoints will be connected to the network at any given time

- Burst of users at 9am with up to 100 auths/second

We can immediately can discount the first value since the total number of endpoints over the course of the day is no longer relevant for performance evaluation. The focus is on the max concurrency of 5,000 and the burst of 50 auths/second.

Reviewing the performance summary table, we see that the C1000 supports just supports 1,000 concurrent users. A single appliance alone won't be enough and to get to 7,000 means at least seven appliances.

Next, we look at the C2000 which supports 10,000 concurrent sessions. That is more than enough capacity to cover the 7,000 however we need to look at the PEAP performance. Per the RADIUS performance table, the PEAP performance for MS-CHAPv2 against Active Directory is 210 auths/second which is twice as much as our requirement of 100 auth/second.

Lastly, since we need hardware redundancy, we would actually purchase two C2000s and then add 7,000 Access licenses.

FREQUENTLY ASKED QUESTIONS

1. Do the new hardware SKUs have different specifications than their predecessors other than the elimination of their bundled capacity licenses?

   a. The hardware specifications are identical between the three legacy SKUs and the new SKUs.

      - JW770A = JZ508A

      - JX920A = JZ510A

      - JX921A = JZ509A

2. The previous hardware SKUs included 25 Enterprise licenses, what happened to those?

   a. The new hardware appliances do not have any feature licenses associated with them. In the new licensing model, there are no bundled application licenses.

3. What happens when I exceed a license?

   a. A warning will be displayed in the web user interface as well as over syslog and SNMP.

4. I provisioned a C1000V but need to actually use a C300V, do I have to start over?

a.   No, you can use the system-morph command in the CLI. Refer to the Systems Commands section of the ClearPass 6.7 user guide for more details.

5.   If a user connects (assume with one endpoint) five times per day, does that mean that endpoint uses five Access licenses?

a.   No, the user will only use an Access license during the time they are connected.

6.   If a user connects (assume with one endpoint) using 802.1X and uses OnGuard, how many licenses are used?

a.   One Access license and one OnGuard.

7.   For high-availability applications, do I need to double the number of Access licenses?

a.   No. Access licenses are shared across all appliances in a cluster.

8.   Is the Enterprise license still available?

a.   No. The bundling of Guest Access into the Access license and per user Onboard consumption provides more value than the legacy Enterprise license

9.   Is High Capacity Guest (HCG) mode still available?

a.   No. The bundling of Guest Access into the Access license along with the introduction of concurrent session per-endpoint consumption model provides a more flexible alternative for customers.

10.   Do I have to pay support on the Access, Onboard or OnGuard licenses?

a.   Yes, purchasing support is required for access to Aruba Support and software downloads for the perpetual licenses. Subscription based licenses continue to include support as long as the subscription remains active.

11.   I am currently running an earlier ClearPass release, can I start using the new licensing?

a.   Yes, you can convert your licenses from the legacy model to the new model. The migration guide can be found [here](#).