

Smart Licensing Using Policy

Frequently Asked Questions

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Cisco Smart Licensing Using Policy overview

Q. What is Smart Licensing Using Policy?

A. The Smart Licensing Using Policy is an evolved version of Smart Licensing. Going forward, all the IOS-XE software supported platforms and NextGen platforms will only support Smart Licensing Using Policy.

The Smart Licensing Using Policy simplifies the day-0 operations of customers as they are not required to perform any software use compliance initially, and there will be no on-going communication with the Cisco cloud. The license use compliance will not require registration before use though software use reporting will be required.

Q. Which platform and software release supports Smart Licensing Using Policy?

A. The Cisco Polaris IOS-XE release 17.3.2 and later releases will support Smart Licensing Using Policy for the following Cisco products.

- Cisco Catalyst 9000 series switches.
- The routing platforms such as the ASR1K, ISR1K, ISR4K.

- The Next Generation virtual routers will support Smart Licensing Using Policy starting Polaris IOS-XE release 17.4.1

- Cisco Catalyst 9800 Series Wireless Controllers.

- Internet of Things (IoT) Next Generation platforms such as Industrial Router IR 1101, Industrial Ethernet IE 3200/3300/3400 and any Next Gen IoT products will also adopt Smart Licensing Using Policy.

Q. What are the key differences between Smart Licensing and Smart Licensing Using Policy?

Smart Licensing	Smart Licensing Using Policy
Mandatory evaluation mode	No registration, No evaluation mode
Day 0 registration to CSSM or satellite per device for software compliance	Allows un-enforced license change, but reporting required
On-going license reporting every 30 days	Policy-based reporting
SLR/PLR for off-line customers	<ul style="list-style-type: none"> • Supports SLR/PLR for brownfield • No SLR/PLR for greenfield
Software compliance is a pre-use per device activity requirement	Software compliance is managed on-change, automation tools provided to assist with SW compliance
Export Control Flag method for crypto feature enablement is no longer approved for use by Global Export Trade	Design supports Global Export Trade Software use requirements for 100% compliance with US Commerce.

Q. What are the basic building blocks of Smart Licensing Using Policy?

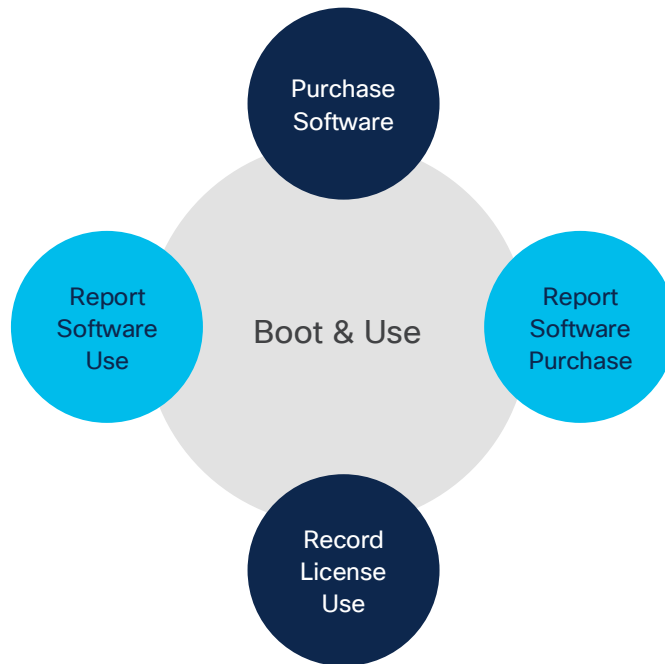
1. Purchase	<ul style="list-style-type: none"> • Smart Account or Holding Account required • Virtual Account is optional, or use of tree structure
2. Use	<ul style="list-style-type: none"> • Configure products as needed; license use is stored in O/S • Product tagging and tools to support telemetry and use files
3. Report	<ul style="list-style-type: none"> • Send file to Cisco (electronic/paper), true-forward-over-use • Enable a tree vs. flat Virtual Account structure, with optional use
4. Software Delta Billing	<ul style="list-style-type: none"> • Customers purchase software in advance • Post billing occurs to fill in use gaps: true-forward, true-up

Cisco Smart License Using Policy Architecture

Q. What are the details of Cisco Smart Licensing Using Policy architecture?

A. The Cisco Smart Licensing Using Policy architecture consists of two important factors:

- Boot and Use
- Report and Manage



Purchase software

- Buying process of hardware and software remains the same, customers must add their Smart Account during the purchase.
- For a throughput above 250M a trade-controlled software is required. As per new trade control regulations, a trade-controlled software is installed at Cisco's factory and an authorization code is installed into customer's Smart Account and installed on your Cisco device.

Report software purchase

- If a customer buys hardware and a software directly from Cisco, then the software purchased is reported into your Smart Account as in-use.
- If a customer buys hardware and software from a Cisco Distributor – then the software is reported in your Smart Account from the point-of-sale records sent to Cisco. If Smart Account is not on the order, then a report to Cisco is required within 90 days.

Record license use

- The Cisco device will record license use.

-
- The device generates a Resource Utilization Measurement ([RUM](#)) report which is ISO19770 compliant. This RUM report is stored in a 'trusted store' which is encrypted.

Report software use

For Perpetual licenses

- Report is required within 90 days when there is a change in software use.
- Report is required annually when there is no change in software use.

For Subscription licenses

Required report within 90 days – whether there is a change or no change in software use.



Upload report

- Cisco device does not hold your Smart Account and Virtual Account information. You can add your Smart Account and Virtual Account information to one or many RUM reports post collection.
- Or, you can select your Smart Account and Virtual Account for each report at the time of upload.
- For connected mode, you can send reports directly to your Cisco Smart Account.
- For offline mode, you can upload reports to you Cisco Smart Account via 'report tab' in CSSM.

View Report

Customers can view license use report under 'report tab' by logging into Cisco Smart Software Manager (CSSM). It will display notification showing both success or failure.

Report ACK file (Optional)

After a license use report is uploaded to your Cisco Smart Account you can download an ACK file and install that ACK file on your Cisco device. This helps to reset the time and date on the RUM report that is used by the device to record the license use.

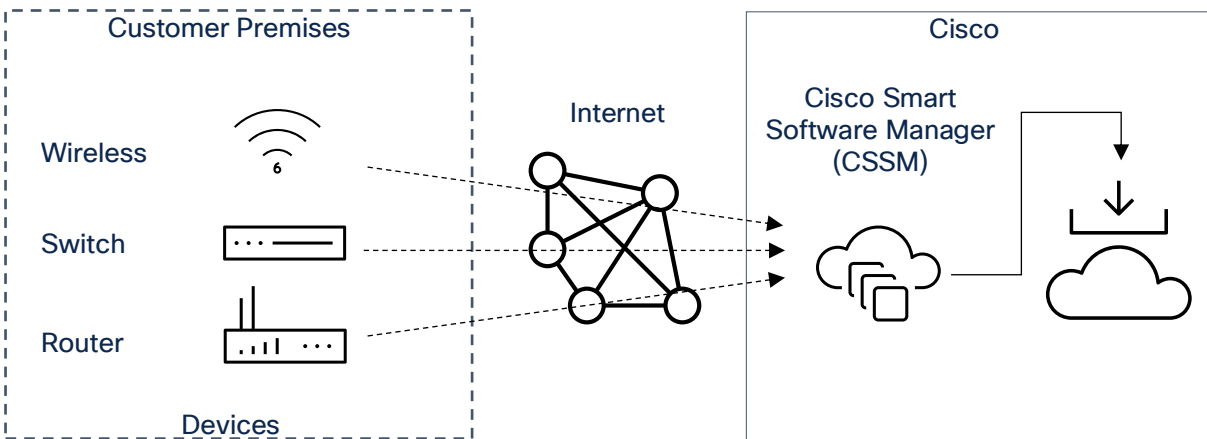
Reporting policy (Optional)

Customers can check their reporting policy under 'report tab' by logging into their Cisco Smart Account in Cisco Smart Software Manager (CSSM).

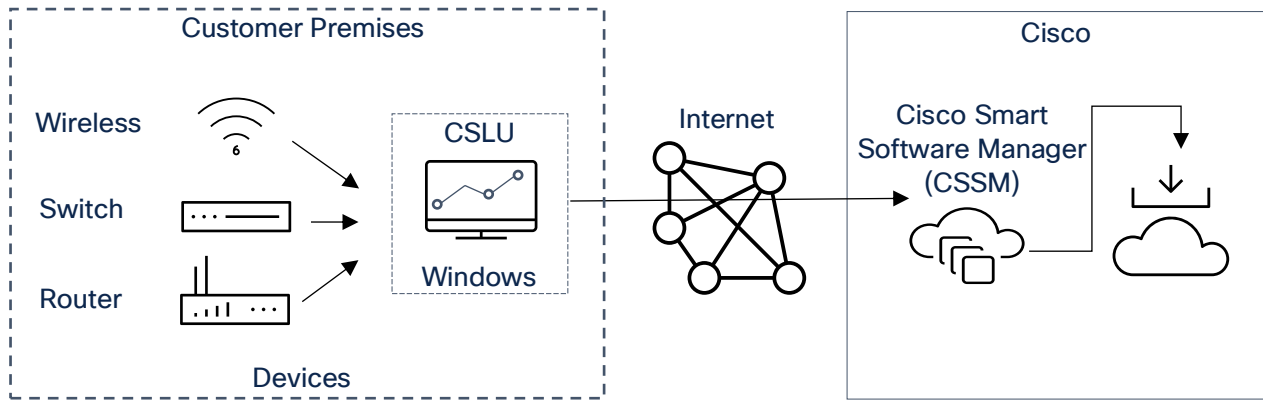
Q. What are the supported topologies to connect to Cisco Smart Software Manager (CSSM)?

A. Below is the list of supported topologies to connect to CSSM:

Topology 1: Direct connection from Cisco devices to the CSSM

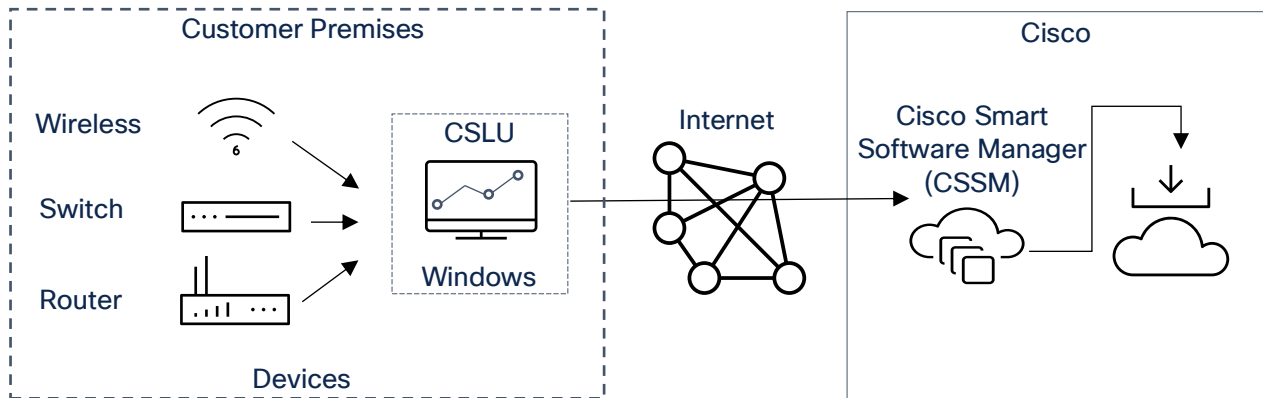


Topology 2: Cisco devices connected to CSSM through a Cisco Controller

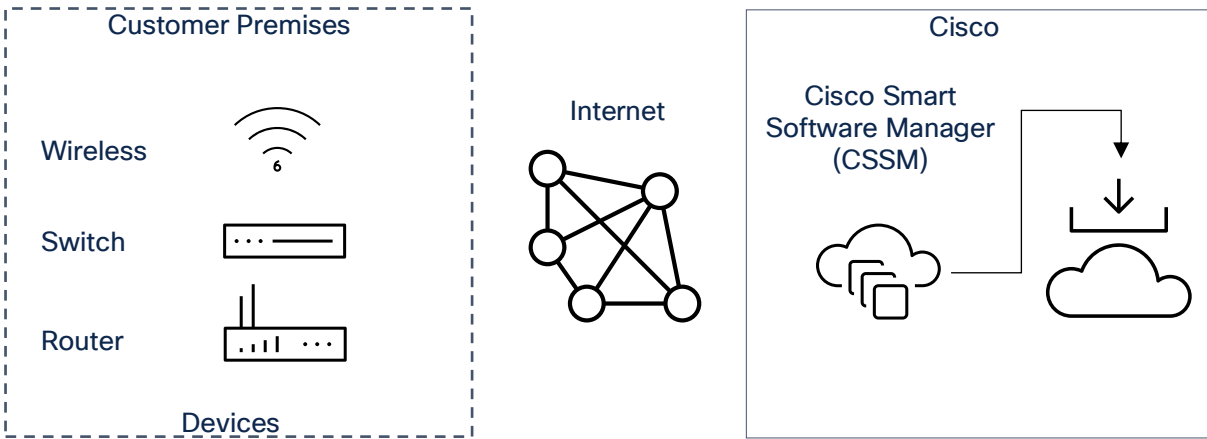


Topology 3: Cisco devices connected to CSSM through a Cisco Smart License Utility (CSLU)

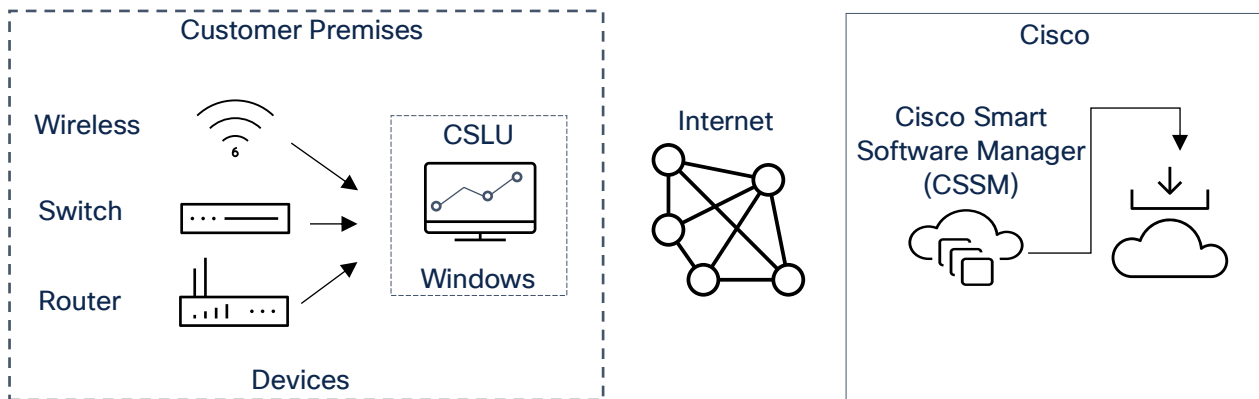
- Windows application



Topology 4: No connection between Cisco devices and CSSM



Topology 5: Cisco devices connected to CSLU but no connection to CSSM



Q. How do customers report software use?

A. Cisco Smart Licensing Using Policy provide various reporting options both in online and offline mode to report the software use.

- Cisco DNAC
- vManage (targeted year 2021)
- Managed Service Accelerator (MSX)
- Reporting Utility, IOS-XE
- Cisco Licensing Utility (CSLU) windows application
- Direct to CSSM

With the help of Cisco controllers' customers can run an application once in 90 days to pull the software use record and then upload the RUM report.

Q. Is the customer required to install a trust token?

A. No, unless the customer is using a direct connection to CSSM.

Q. Will I lose Specific License Reservation (SLR) / Permanent License Reservation (PLR) keys after I move to Cisco IOS-XE 17.3.2 release or later?

A. No. SLR/PLR keys will persist through software upgrades.

Q. How do customers Report ACK file, if they are using Specific License Reservation (SLR) / Permanent License Reservation (PLR)?

A. A customer will be able to collect a license use record and upload the RUM report from the device that is using SLR/PLR. In case of SLR/PLR the Authcode will be released and SLAC may be generated in case the device has SLR for enforced or export-controlled licenses.

Q. What will happen if customers upgrade from legacy licenses or from Smart Licensing to a Smart Licensing Using Policy?

A. If a customer upgrades from a legacy license such as PAK (Product Activation Key), RTU (Right-To-Use) or from a SL (Smart Licensing) to a Smart Licensing Using Policy there will be no operational changes.

Q. Will the Smart Account/Virtual Account migrate to SMART LICENSING USING POLICY by default or does it need to be requested?

A. Starting November 2020 by default Smart Account/Virtual Account will be enabled with Smart Licensing Using Policy functionality.

Q. Are all Virtual Accounts inside a Smart Account enabled for Smart Licensing Using Policy?

A. Yes

Q. Can a Smart Licensing Using Policy enabled Smart Account/Virtual Account handle non-Smart Licensing Using Policy Images?

A. Yes

Q. Does a non-Smart Licensing Using Policy IOS-XE (example 16.12 release) connect to a Smart Licensing Using Policy Smart Account/Virtual Account?

A. Yes

Q. Does anything change with the existing software subscription tiers?

A. No. The software subscription tier will remain the same.

Q. Can I continue to use SL with Software version 17.3.2? Or does it have to be only SMART LICENSING USING POLICY from this release onwards? What will not be supported if I stay with SL?

A. Starting software version 17.3.2 devices will only support Smart Licensing Using Policy. There are various features that will not be supported in SL, such as -

- No evaluation, No registration.
- Export control flag will not be complaint with the US trade commerce.
- It will not support use of API and CLI to enable reporting automation.
- Software use report via Cisco Smart Licensing Utility (CSLU) windows tool.
- Product tagging.
- Cisco DNAC appliance.

Q. After migrating to Smart Licensing Using Policy, what is the maximum amount of time allowed before I send the first report.

A. For perpetual licenses, a report is required within 90 days when there is a change in software use. However, if there is no change in software use than a report is required annually.

- For subscription licenses, a report is required within 90 days whether there is a change or no change in software use.

Q. What happens when a customer enables Cisco DNA Advantage even when they are entitled to use Cisco DNA Essentials or vice-versa?

A. Customers can use a Cisco DNA Advantage license even though they have purchased a Cisco DNA Essentials license or vice-versa. However, due to the change in license level a new report to Cisco is required within 90 days for an Enterprise Agreement true-forward or transactional true- up event.

Q. How many Authorization codes are required in a stack or a High Availability (HA) configuration?

A. In an active/standby RP configuration where both get the Unique Device Identifier (UDI) from the chassis and both have the same UDI only one authorization code will be needed because it is tied to the UDI.

In the case where UDIs are different, Smart Licensing Using Policy will require that each device in the HA configuration containing a

UDI has its own authorization code tied to its UDI.

The active Switch will check the following for all stack members:

- The same entitlements
- The same counts
- The same terms

If there is a mismatch the active switch will send an error syslog once per week indicating Smart Agent HA is not configured correctly.

Q. Who determines the policy and how many policies can be applied on a single device?

A. CSSM determines the policy that is applied to a product instance. Only one policy is in use at a given point in time.

Q. Is the Policy a hard requirement?

A. The policy is a requirement from Cisco. It is a soft requirement on the device, not enforced. However, for features like CUBE(Voice) Ack is a hard requirement/enforcement.

Q. What is Cisco Smart Licensing Utility (CSLU)?

A. Cisco Smart Licensing Utility (CSLU) is a Windows application that is used to pull software use data from the Cisco device and report the software use to the Cisco Smart Software Manager (CSSM).

Q. What are the minimum Windows system requirements to install CSLU?

Component	Minimum	Recommended
Hard disk	100 GB	200 GB
RAM	8 GB	8 GB
CPU	x86 Dual Core	x86 Quad Core
Ethernet NIC	1	1

Q. What are the key features of CSLU?

A.

1. Collect license usage reports from the product instances.
2. Store and forward usage reports to CSSM for billing and analytics.
3. Obtain policy and authorization code from CSSM.
4. Distribute policy and authorization to product instances.
5. It can be deployed as standalone micro service:
 - a. Windows host (up to 10000 PIs)
6. It can also be integrated as software component with controller-based products:
 - a. Cisco DNA-C
 - b. On the Product Instance (PI)
7. Regardless how the micro service is deployed, it will be able to deliver an on-line or off- line connectivity model for the license data.

Q. What format does CSLU follow to collect report?

A. The CSLU report format is based on ISO 19770-4 standard RUM report format. It is delivered in JSON format and is signed per trust model.

Q.What are the various tools to collect software use report?

A. Customers can use various sets of APIs that are available through the YANG model. They can also use the Command Line Interface (CLI) and the SNMP (via MIB's) to collect the software use for reporting.

Q. What data does Cisco need to know?

UDI	Hardware Product serial number
SN	• Software Unique ID Serial Number
Software Package and Reg ID	• Software product package and entitlement tag
Count	• Software use count per license entitlementdefa
Time and date stamp	• Per license entitlement change and use

Optional data fields for software reconciliation for each Cisco products that support Smart Licensing Using Policy (SA = Smart Account, VA = Virtual Account)

SA/VA/Free Form	Data
SA-VA Level 1	• e.g., Entity (map to a SA)
SA-VA Level 2	• e.g., GEO (map to a SA)
SA-VA Level 3	• e.g., department (map to a SA)
SA-VA Level 4	• e.g., building (map to a SA)
SA-VA Level 5	• e.g., room (map to a SA)
Free form	• Data does not go back to Cisco
Free form	• Data does not go back to Cisco

Q. How does Smart Licensing Using Policy work with device replacement (RMA)?

A. If customers are connected to CSSM through Cisco controller then the reporting policy will be managed by a Cisco controller or it can be manually performed with the help of Cisco TAC. Replacement identified per Product Instance (PI) within a free form field by a customer – optional

Depot Terms:

- Will rely upon normal process for trade controlled HW and SW, per ECCN (Export Control Classification Number)
- Config center process will follow the standard trade control PRR checks

Q. What are License Enforcement types?

A. A given license belongs to one of three enforcement types. The enforcement type indicates if the license requires authorization before use, or not.

1. **Unenforced or Not Enforced** - Unenforced licenses do not require authorization before use in air-gapped networks, or registration, in connected networks. The terms of use for such licenses are as per the End User License Agreement (EULA)
2. **Enforced** - Licenses that belong to this enforcement type require authorization before use. The required authorization is in the form of an authorization code, which must be installed in the corresponding product instance.
 - a. An example of an enforced license is the Media Redundancy Protocol (MRP) Client license, which is available on Cisco's Industrial Ethernet Switches.
3. **Export-Controlled** - Licenses that belong to this enforcement type are export-restricted by U.S. trade-control laws and these licenses require authorization before use. The required authorization code must be installed in the corresponding product instance for these licenses as well. Cisco may pre-install export-controlled licenses when ordered with hardware purchase.
 - a. An example of an export-controlled license is the High Security (HSECK9) license, which is available on certain Cisco Routers.

Export Controlled Software

Q. What happens when a customer orders new hardware and software with an export- controlled software?

A. As per trade-control regulations an authorization code is required per UDI (Unique Device Identifier) or SN (Serial Number). This authorization code is installed at a Cisco factory on per device that requires the use of export-controlled software. This authorization code persists through software upgrades.

Q. What happens when a customer buys an export-controlled software for an existing hardware and software?

A. As per trade-control regulations an authorization code is required per UDI (Unique Device Identifier) or SN (Serial Number). Cisco tools or API's are available to automate the workflows.

- US commerce requires Cisco to send export-controlled software use report every 6 months thus such software must be purchased in advance.

Q.What if a customer is using a trade-controlled software, how should they report the ACK file?

A. Customers will collect a license use report from their device that is using a trade-controlled software and will upload the RUM report to their Cisco Smart Account. Once the RUM report is uploaded it will generate a Smart Licensing Authorization Code which will be embedded into the ACK file. Customers can install this ACK file on their device.

Q. What is Smart License Authorization Code (SLAC)?

A. Earlier in Smart Licensing, export controlled feature was implemented using export control flag which is specified per Smart Account. Cisco device that is registered to a Smart Account that has the export control flag set is allowed to configure more than 250M of throughput. However, the current

export control regulation requires any throughput above 250M to have a smart license authorization code (SLAC) which is tied to UDI (Unique Device Identifier).

Q. How do customers request a Smart License Authorization Code (SLAC)?

Reporting	<ul style="list-style-type: none"> • Smart Account or Holding Account required • Virtual Account is optional, or use of tree structure
Export -Controlled Software	<ul style="list-style-type: none"> • Configure products as needed; license use is stored in O/S • Product tagging and tools to support telemetry and use files
Legacy Management	<ul style="list-style-type: none"> • Send file to Cisco (electronic/paper), true-forward-over-use • Enable a tree vs. flat Virtual Account structure, with optional use
Telemetry	<ul style="list-style-type: none"> • Customers purchase software in advance • Post billing occurs to fill in use gaps: true-forward, true-up

A. Customers can request and install SLAC based on the following connection from their Cisco device(s) to the CSSM.

Smart Licensing Using Policy in Cisco DNA Center

Q. What is new in Cisco DNA-Center?

A. Cisco DNA-Center will now be supporting Smart Licensing Using Policy.

Q. What is the Enforcement strategy in Cisco DNA-Center?

A. The Cisco enforcement strategy for the Cisco DNA-Center includes the following.

DNA-A = DNA- Advantage, DNA-E = DNA-Essentials

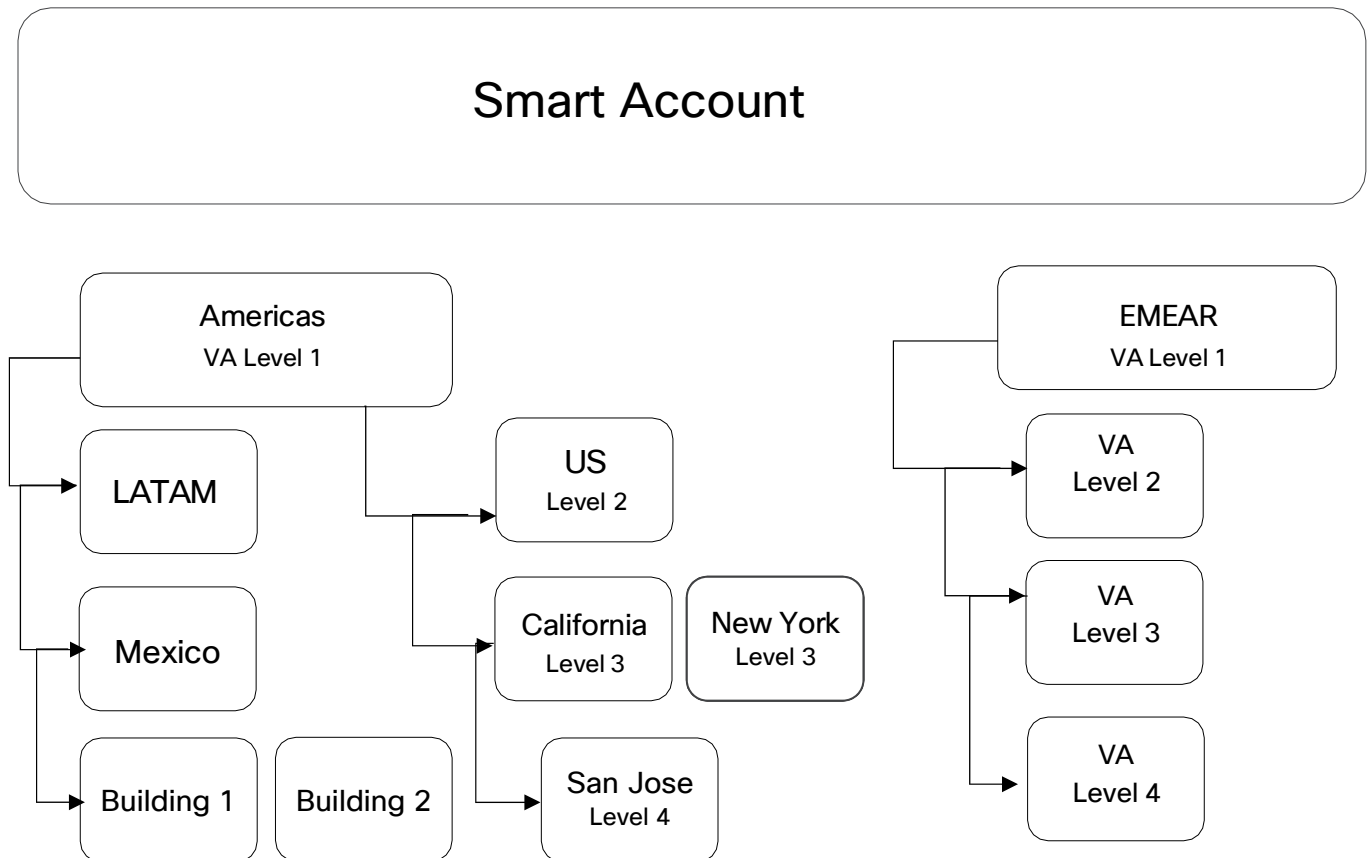
	DNA-C Cloud	DNA-C On-Premise	Comments
No License	<ul style="list-style-type: none"> • DNA-A features blocked after 90-day evaluation expires. • DNA-E continues to work 	<ul style="list-style-type: none"> • Usage tracked 	<ul style="list-style-type: none"> • Customer will be billed for usage within 90 days.
DNA License expired	<ul style="list-style-type: none"> • DNA-A features blocked. • DNA-E continues to work 	<ul style="list-style-type: none"> • Usage tracked 	<ul style="list-style-type: none"> • Customer be billed for usage beyond expiry.
Overconsumption of license quantity	<ul style="list-style-type: none"> • DNA-A features blocked. • DNA-E continues to work. 	<ul style="list-style-type: none"> • Usage tracked 	<ul style="list-style-type: none"> • Customer be billed for the delta
Procured DNA-E and configured/consuming DNA-A	<ul style="list-style-type: none"> • Only DNA-E is available (license enforced) 	<ul style="list-style-type: none"> • DNA-A usage tracked 	<ul style="list-style-type: none"> • Customer be billed for DNA-A usage

	DNA-C Cloud	DNA-C On-Premise	Comments
Procured / configured DNA- E and consuming DNA-A	<ul style="list-style-type: none"> • Only DNA-Eis available (license enforced) 	<ul style="list-style-type: none"> • DNA-A usage tracked 	<ul style="list-style-type: none"> • In compliance on WLC (Ex: ISSU and Rolling AP upgrade) • Customer be billed for DNA-A usage on DNA-C

Smart Account and Virtual Accounts

Q. What is new in Smart Account?

A. Smart Account will support nested structure where you can create up to 10 levels of Virtual Accounts. It gives you an ability to create multiple virtual accounts based on geography, buildings, departments, products etc.



Q. What happens when a customer purchases a hardware from a Distributor?

A. Distributors always keep a stock of hardware with Smart Account unknown. When a customer buys hardware from the distributor the hardware has a software image with default built-in policy. The initial report of perpetual license is satisfied as hardware leaves Cisco manufacturing. Customers can start using hardware with no day0 configuration or connection to the internet. Or, customers can download their policy from CSSM and apply it on the device to avoid reporting or syslog on the hardware.

On-Prem Satellite Server

Q. Which version of On-Prem SSM will support SMART LICENSING USING POLICY?

A. On-prem SSM with Smart Licensing Using Policy support will be available in version 8-202012 which is planned for release in February 2021.

(Note: On-Prem SSM image will be available for testing in December 2020)