Techclub
Smart licensing prakticky - SLP

Peter Morvay, Systems Engineer, pmorvay@cisco.com

Miroslav Hlubik, EN Sales specialist, mihlubik@cisco.com

Techclub webináře - zpátky do minulosti

01.06.2021 Novinky v oblasti Smart accountů a Smart licencí

21.04.2020 Cisco Smart licencování a Smart Account

Link: Cisco Tech Club webináře

"Good software, like wine, takes time."

Joel Spolsky

Kde vidím své licence

Smart Account

https://software.cisco.com

Smart licence →

Tradiční licence
PAK →

Cisco Smart Software Manager (CSSM)

Manage licenses >

SSM On-prem: https://<ip-adresa>:8443

License Registration Portal (LRP)

Access LRP >

Produkty podporující Smart licencování

Kompletní seznam a dokumentace
https://www.cisco.com/c/en/us/products/software/smart-accounts/software-licensing.html

SLP	Smart Only	Hybrid
36	82 -> **113**	34 -> **24**

Catalyst 9K, Catalyst 8K, ASR 1K IE 3K, IR 1K, ISR 1K, 4K Nexus 3K, 9K, MDS 9K	ASA, FTD ASR 1K, 9K, NG Catalyst 3K, 9K IE 3K, IR 1K ISR 1K, 4K, ISE, HCS, Webex MS, CME, CUCM NCS 1K, 4K, 5xx, 55xx Nexus 3K, 9K	ASR 9xx WLC 3504, 5520 PI ESA, WSA CMS Nexus 7000

Nová metoda nasazení:
Smart Licensing using Policy

Smart Licensing using Policy
(new version Polaris 17.3.2)

Proces objednání HW a SW bez změny

Pouze 1 požadavek namísto 3

Není EVAL @ product boot
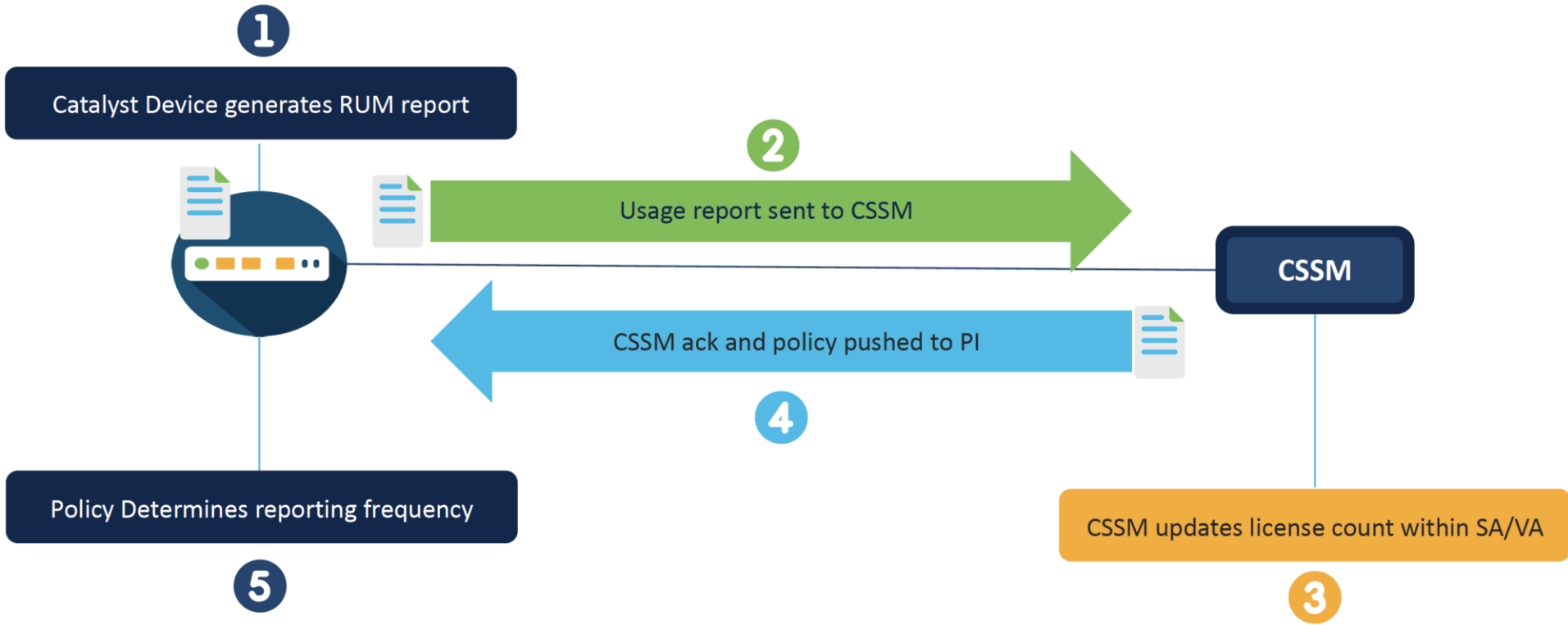
Nemusím registrovat zařízení na cisco.com (CSSM)

Neprobíhá pravidelná komunikace mezi zařízením a SSM nebo SSM On-prem - 30, 90 dní

Zjednodušení

Odeslání reportu o SW licencích

SLP Flow

1. Catalyst Device generates RUM report

2. Usage report sent to CSSM

3. CSSM updates license count within SA/VA

4. CSSM ack and policy pushed to PI

5. Policy Determines reporting frequency

CSSM

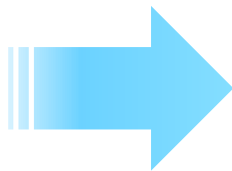# SL vs. SL using Policy

Smart Licensing

- Day 0 registration required
- Mandatory evaluation mode
- Regular interval Licenses reporting
- Acquire before use model
- SLR/PLR for off-line customers

Smart License Using Policy
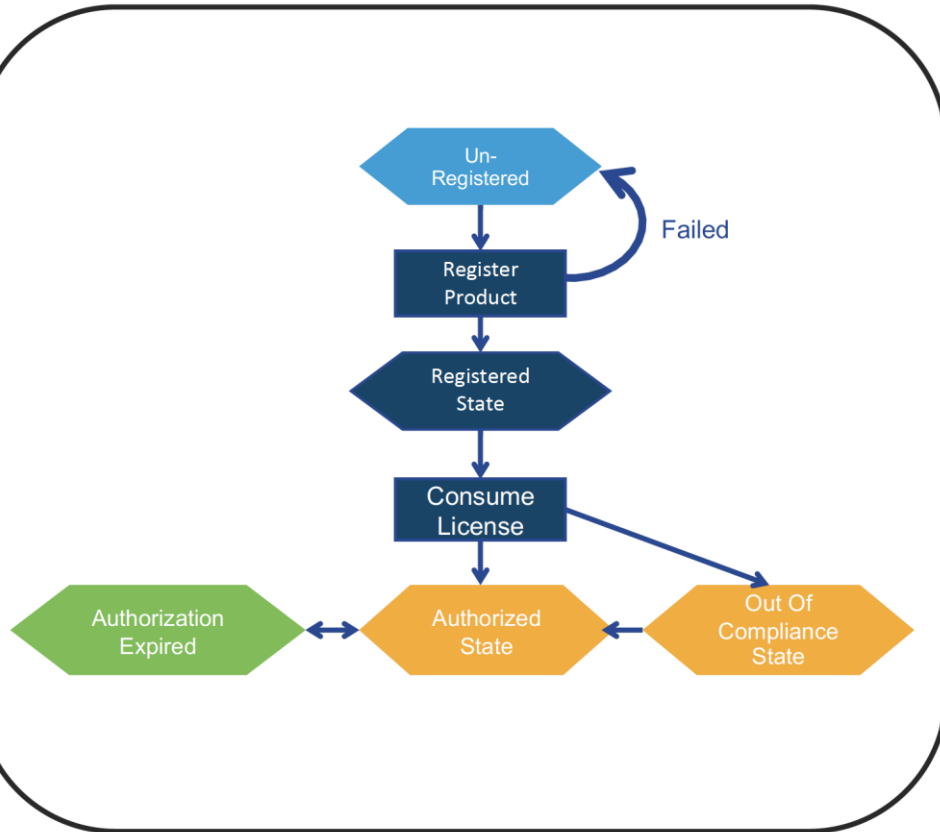
- No Day 0 registration required
- No more Evaluation Mode
- Usage reports are stored on device and reported later
- Acquire before use for export control Licenses Only
- No SLR/PLR required due to flexible policy model

SL license states

SLP license states

SLP simplifies operations by removing different licenses states and using only one state which is "In-use"

* License state always "In-use" even if CSSM is unavailable

SLP Policy - #sh license all

Default policy

- Ack needed – Optional*
- Perpetual Licenses:
  - First report – 365 days
  - Subsequent reports – Not required

- Subscription Licenses:
  - First report – 365 days
  - Subsequent reports – Not required

- On license change:
  - Perpetual – Within 90 days
  - Subscription – Within 90 days

Each attribute can be changed using a custom policy
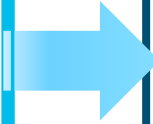
```
Policy:
  Policy in use: Merged from multiple sources.
  Reporting ACK optional: : yes (CISCO default) <link why ACK>

Unenforced/Non-Export PERPETUAL Attributes:
    First report requirement (days): 365 (CISCO default)
    Reporting frequency (days): 365 (CISCO default)
    Report on change (days): 90 (CISCO default)

Unenforced/Non-Export SUBSCRIPTION Attributes:
    First report requirement (days): 365 (CISCO default)
    Reporting frequency (days): 365 (CISCO default)
    Report on change (days): 90 (CISCO default)

Enforced (Perpetual/Subscription) License Attributes:
    First report requirement (days): 0 (CISCO default)
    Reporting frequency (days): 0 (CISCO default)
    Report on change (days): 0 (CISCO default)
 Export (Perpetual/Subscription) License Attributes:
    First report requirement (days): 0 (CISCO default)
    Reporting frequency (days): 0 (CISCO default)
    Report on change (days): 0 (CISCO default)
```

* The output currently shows yes. Output will be updated in future releases.

CSLU Functions

Cisco Smart License Utility (CSLU)

What is CSLU?

CSLU - Different Form Factor
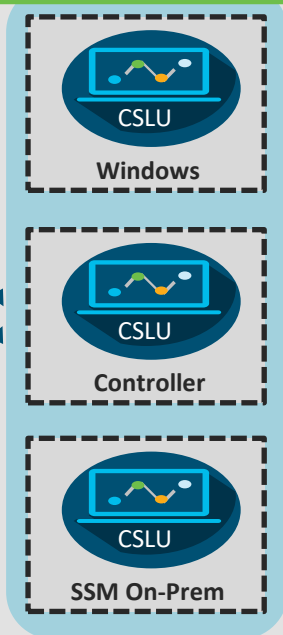
CSLU Key Functions

Deployed as micro service on windows host

Can also be integrated as software component with controller-based products:
- Cisco DNA-C
- On the device

Able to deliver an on-line or off-line connectivity model for the license data.

CSLU
Windows

CSLU
Controller
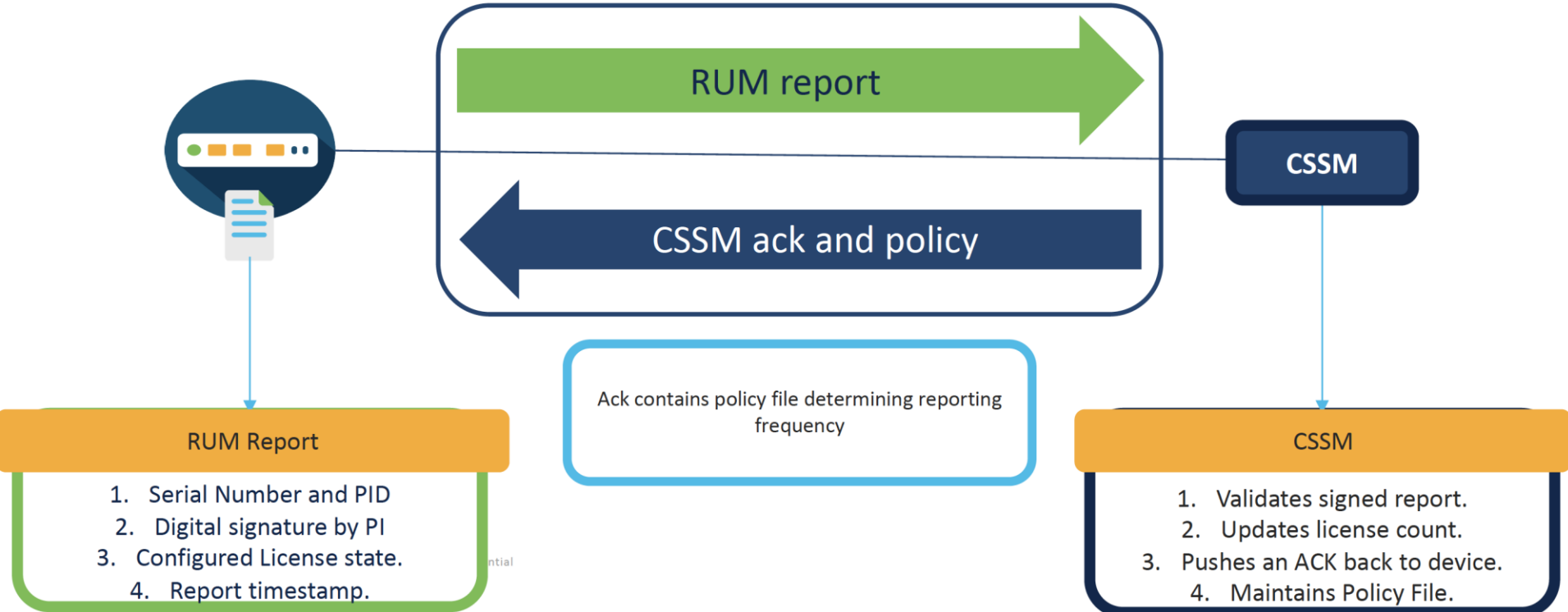
CSLU
SSM On-Prem

Administer all licenses and their associated device

Sends authorization code requests to CSSM, receives authorization codes from CSSM and can install authorization codes on a device

Collects usage reports from the device and upload these usage reports to SA/VA in CSSM

The RUM report ACK from CSSM is collected online, or offline, and provided back to a device

*SSM On-Prem – will be available in Apr 2021

SLP reporting data

RUM report →

← **CSSM ack and policy**

CSSM

Ack contains policy file determining reporting frequency

RUM Report
1. Serial Number and PID
2. Digital signature by PI
3. Configured License state.
4. Report timestamp.

CSSM
1. Validates signed report.
2. Updates license count.
3. Pushes an ACK back to device.
4. Maintains Policy File.

Smart Licensing Using Policy - FAQ

https://community.cisco.com/t5/networking-documents/smart-license-using-policy-faq/ta-p/4415506#toc-hId--1348114302

Důležité zdroje

Vstup do administrace SA, portálů pro správu licencí SSM a LRP
https://software.cisco.com

One-stop shop - Treningové materiály, manuály:
SA SL Training Modules For Customers.pdf

Kompletní seznam Smart Enabled produktů a dokumentace
https://www.cisco.com/c/en/us/products/software/smart-accounts/software-licensing.html

Některé otázky a odpovědi z Techclub webináře 7.6.2022

Co vše je třeba povolit pro on-prem na firewallu do internetu?

The Cisco product must have reachability to the appropriate endpoint – Cisco SSM or an SSM On-Prem license server. This may require configuring firewall rules and/or any intermediate proxies. The channels and ports used will depend on which transport protocol is used. This is shown below.
Smart Call Home
- HTTP(80): tools.cisco.com
- HTTPS(443): tools.cisco.com

Smart Transport
- HTTPS(443): smartreceiver.cisco.com

Zdroj: https://www.cisco.com/c/en/us/products/collateral/cloud-systems-management/smart-software-manager-satellite/white-paper-c11-743812.html

Návody pro jednotlivé produktové rodiny jsou v konfiguračních guidech, např.

[Smart Licensing Using Policy pro Enterprise Routing Platforms:](#)

[Smart Licensing Using Policy pro Catalyst Switching Platforms](#)

Další návody na stránce podle produktových rodin:
https://www.cisco.com/c/en/us/products/software/smart-accounts/software-licensing.html

Návody, dokumentace

View Smart License documentation by product

Choose product family: --

Smart Licensing Enabled Product Families - XLS Download

Seznam produktový rodin podporujících
smart licencování a Smart Licensing Using Policy

SLUP v praxi

Empty device

sh lice all

…

Transport:
  Type: cslu
  Cslu address: <empty>

…

Usage Reporting:
  Last ACK received: <none>
  Next ACK deadline: Nov 30 03:00:01 2022 CEST
  Reporting push interval: 30 days
  Next ACK push check: <none>

Initial config

interface GigabitEthernet0/0
 vrf forwarding **Mgmt-vrf**
 ip address 10.62.8.55 255.255.255.192
 negotiation auto
no shut

! Routing + DNS ; + http source
ip route vrf Mgmt-vrf 0.0.0.0 0.0.0.0 10.62.8.1
ip name-server vrf Mgmt-vrf 10.62.8.9
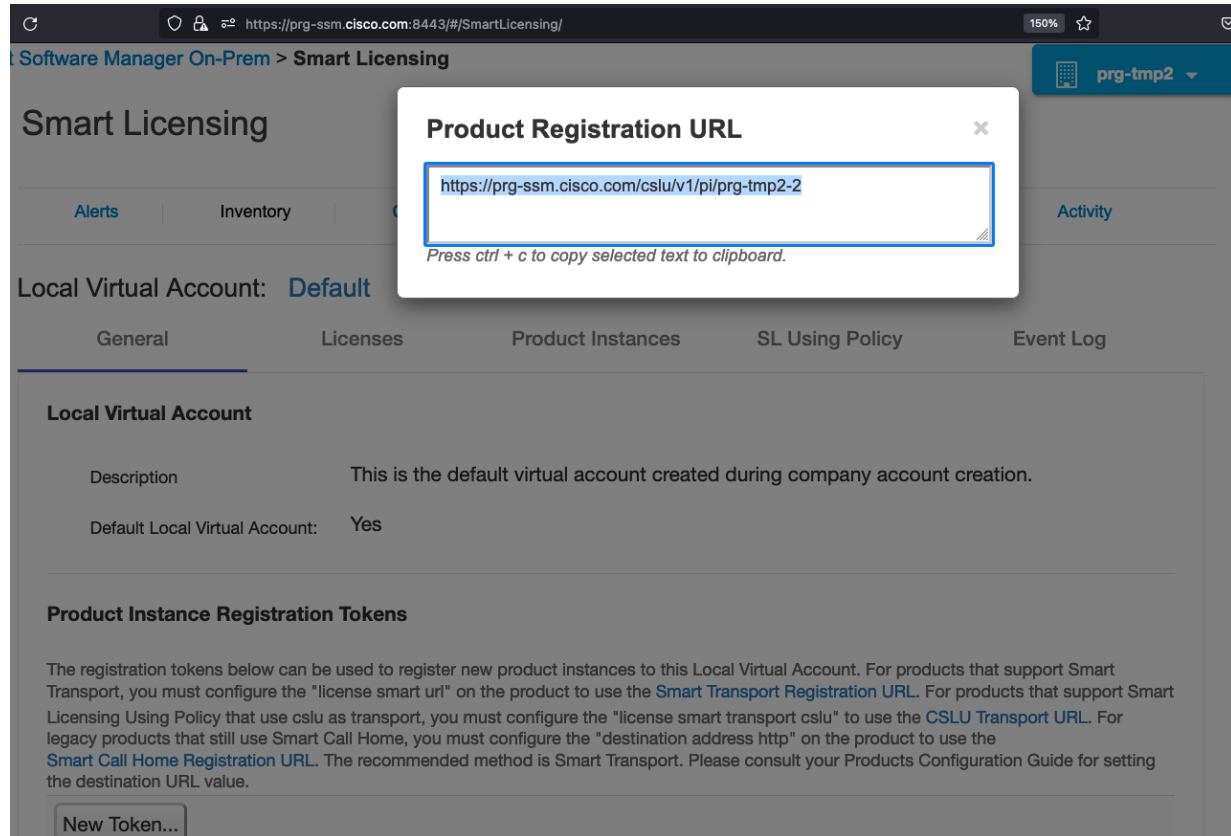
ip http client source-interface GigabitEthernet0/0

In case of non valid certificate

```
crypto pki trustpoint SLA-TrustPoint
 enrollment pkcs12
 revocation-check none
!
```

Connectivity via OnPrem SSM

1. Copy CSLU
   transport address

license smart url cslu https://prg-ssm.cisco.com/cslu/v1/pi/prg-tmp2-2
license feature hseck9

debug license events
  term monit
license smart sync all

Device sent RUM to SSM

Smart Licensing

| Alerts | Inventory | Convert to Smart Licensing | Reports | Preferences | Activity |

Local Virtual Account: Default

| General | Licenses | Product Instances | SL Using Policy | Event Log |

Name	Product Type	Last Contact	Alerts	Actions
10.48.74.191	4400ISR	2022-Mar-24 16:09:18	✅ DLC acknowledgement to product instance	Actions
10.62.8.55	ISR1K	2022-May-03 09:57:34	✅ Usage report acknowledgement to product instance	Actions
10.62.8.61	CAT8200	2022-May-10 12:54:14	✅ Usage report from product instance	Actions

Search by Name, Product Type

Manual Sync of Reports to CSSM

RUM sent

sh license status

…

Usage Reporting:

  Last ACK received: <none>

  Next ACK deadline: Nov 30 03:00:01 2021 CEST

  Reporting push interval: 0 (no reporting)

  Next ACK push check: May 10 14:59:14 2022 CEST

  Next report push: <none>

  Last report push: May 10 14:54:15 2022 CEST

  Last report file write: <none>

Trust Code Installed: <none>

RUM ACK received

sh license status

...

Usage Reporting:

Last ACK received: May 11 14:33:49 2022 CEST

Next ACK deadline: Aug 09 14:33:49 2022 CEST

Reporting push interval: 30 days

Next ACK push check: <none>

Next report push: Jun 10 14:28:50 2022 CEST

Last report push: May 11 14:28:50 2022 CEST

Last report file write: <none>

Transfer or remove device / Product Instance

Transfer or remove device / Product Instance

Confirm Remove Product Instance

If you continue, the product instance "10.62.8.61" will no longer appear in the Smart Software Manager On-Prem and will no longer be consuming any licenses. In order to bring it back, you will need to re-register the product instance.

Remove Product Instance   Cancel

10 ▼   Showing Page 1 of 1(3 F   Remove...

UDI_PID:C8200-1N-4T; UDI_SN:FGL2512L1N3;

Overview | High Availability | Event Log

Description

Catalyst 8200 Branch Edge

General

Name:	UDI_PID:C8200-1N-4T; UDI_SN:FGL2512L1N3;
Product:	C8200-BranchEdge
Host Identifier:	-
MAC Address:	-
PID:	C8200-1N-4T
Serial Number:	FGL2512L1N3
UUID:	-
Virtual Account:	prg-tmp2
Registration Date:	2022-May-10 12:56:29
Last Contact:	2022-May-10 14:07:40

License Usage

License	Billing	Expires	Required
Routing DNA Advantage: Tier 0: 10M	Prepaid	-	1
Routing Network Advantage: Tier 0: 10M	Prepaid	-	1
CUBE v14 Trunk Redundant Session	Prepaid	-	1

Showing All 3 Records

Remove Hsec reservation from CSSM

1. license smart authorization return all online

Or

2. license smart authorization return all offline

Enter this return code in Cisco Smart Software Manager portal:

UDI: PID:C1117-4P,SN:FCZ2225E1YU

Return code: CS5xNK-9WWKVJ-gApWiP-XXZZ4G

+ enter the code to CSSM

Cisco Software Central

Remove Reservation

Smart Software Licensing

To remove a Product Instance that has reserved licenses and make those licenses once again available to other Product Instances, enter in the Reservation Return Code generated by the Product Instance. If you cannot generate a Reservation Return Code, contact Cisco Support
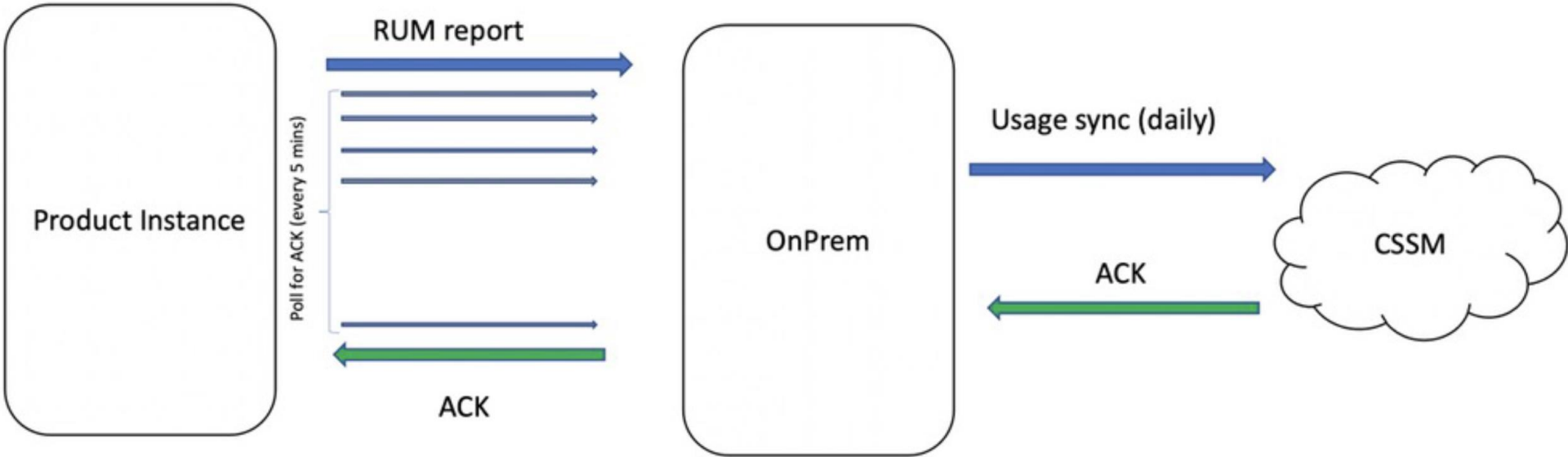
Alerts | **Inventory** | Convert to Smart Licensin

* Reservation Return Code: CS5xNK-9WWKVJ-gApWiP-XXZZ4G

Feedback   Support   Help

🏢 InternalTestDemoAccount11.cisco.com ▾

Virtual Account: **PRG-INTERNAL**

Remove Reservation   Cancel

2 Major   **7** Minor   Hide A

		General	Licenses	Product Inst		

Authorize License-Enforced Features...

ct Type 🔍

Name	Product Type	Last Contact	Alerts	Actions
UDI_PID:C1117-4P; UDI_SN:FCZ2225E1YU;	ISR1K	2022-Jun-07 08:36:24 (Reserved Licenses)		Actions ▾

Showing 1 Record

Workflow SSM On-prem

Demo