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The Definitive Guide to **Hybrid Maintenance**

for **Cisco®** Infrastructure

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The Definitive Guide to Hybrid Maintenance for Cisco®

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introduction |

Hybrid Maintenance for **Cisco**

The purpose of this guide is to provide helpful information to owners of Cisco infrastructure considering Hybrid Maintenance, a Smart Net alternative, or Third Party Maintenance (TPM) on Cisco devices.

Cisco's software policies support our recommendation for Hybrid Maintenance. Smart Net is a valuable and excellent service. We recommend Smart Net for devices that REQUIRE Smart Net to legally obtain software updates.

The very crux of this guide

Many Cisco devices are entitled to Free Software Updates Cisco offers Free Software Updates on many devices with LAN Base & IP Base Feature Sets.

Many Cisco devices no longer receive software updates - Many Cisco devices are End of Software Maintenance (EoSW). Typically after 4 years, and 4 years before End of Support (EOS), Cisco many times no longer develops software updates.

Cisco devices are entitled to Free Software Updates, and/or EoSW, we recommend using a qualified TPM to support these devices at a significant savings.

GO TO ➤ tredent.com/tredentplusdevicelist
to view the list of 221 Devices Entitled to FREE Software Updates

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What is Cisco Smart Net Maintenance?

Cisco Smart Net Maintenance

is an award winning maintenance

solution providing support for

Cisco infrastructure provided directly

by Cisco Systems, Inc. the OEM

(*Original Equipment Manufacturer*).

What's Included:

- Technical support from the Cisco TAC
  (*Technical Assistance Center*)
- Advance hardware replacement, in as little as 2 hours
- Internetwork Operating System (IOS) software updates
- Access to online resources
- Entitlement to Cisco installed base insights through
  smart capabilities

What is Third Party Maintenance (TPM)?

Third-party Maintenance (TPM) is a maintenance solution providing support for Cisco infrastructure by companies independent of the OEM

What's Included:

• Technical support from a TAC (Technical Assistance Center)
• Advance hardware replacement, in as little as 2 hours
• Internetwork Operating System (IOS) software updates (Cisco devices entitled to Free Software Updates)
• Access to online resources (Users of Hybrid Maintenance with a valid Cisco Smart Net contract)

Benefits of TPM

Superior service

Because TPMs are focused on servicing customers (rather than selling hardware), they're usually more responsive and able to offer faster access to advanced problem-solving support. Customers can expect case management to be more personalized with an experienced technician as their first point of contact. Their depth of knowledge is readily accessible, and research shows that a majority of companies switching to TPMs are quite happy. A vast majority of contracts that go from an OEM to a TPM stay with third party maintenance permanently.

Extended life of equipment

OEMs often recommend upgrading perfectly functioning hardware assets as the warranty nears expiration. If you don't, it means an expensive post-warranty maintenance contract and eventually a diminished or end to OEM support. If you have an aging and stable infrastructure or you're running legacy software to maximize your ROI, you might prefer to keep your existing infrastructure. With a TPM, you can extend the life of your equipment and continue to service and maintain it well after it's deemed end of service by the OEM.

Multi-vendor support

Many organizations utilize equipment from multiple vendors and carry several OEM agreements. Each incurs overhead, requiring additional time (and paperwork) to juggle the contracts. With a TPM, companies can receive support for multiple manufacturers — all in one contract. Consolidating services allows you to gain efficiencies, save the hassle of dealing with multiple vendors, and rely on predictable costs. It also alleviates issues of finger pointing that can occur with multiple service providers.

Customizable service agreements

TPMs are able to provide an array of services, allowing you to tailor maintenance packages to your specific needs, rather than a one-size-fits-all approach. This flexible approach allows you to eliminate unnecessary services and puts you in the driver's seat when it comes to choosing solutions that best match your requirements and budget. TPMs can easily customize solutions—from making simple contract changes to offering flexible lengths of service or coterminous contracts. This aligns all of your agreements to one common expiration date.

Reduced cost

The OEM business model relies heavily on developing and selling new equipment, so they guide customers toward technology refreshes rather than extending the asset lifecycle of those devices. Because of this, OEMs often increase the cost of after-warranty maintenance services year over year, even ending support for products before end of life. This can lead to costly and unnecessary upgrades for companies. With a TPM, you can extend the life of your system through maintenance and support at a much lower price point. The savings can be significant, often saving clients 60% off OEM support list prices.

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Service Industry
Association (SIA)

Deciding whether to stay with an OEM, switch to a TPM, or engage in a hybrid approach is an important decision.

Working with a member of the **Service Industry Association (SIA)** will ensure that you are partnering with a quality provider.

Tredent Data Systems TPM customers additional benefits

- Dedicated Service Reps
- All USA based engineers
- On-site sparing
- Cloud based Hybrid Software Management tool

Just because third party maintenance costs less doesn't mean you get less—although it's important to use a premium-quality provider.

What is Hybrid Maintenance for Cisco?

Hybrid Maintenance for Cisco is a "strategic blend" of Smart Net Maintenance & Tredent's TDS-NetCare.

Very simply Cisco Hybrid Maintenance is:
- Smart Net on devices that require Smart Net to receive software updates
- TDS-NetCare on devices entitled to Free Software Updates
- TDS-NetCare on devices that no longer receive software Updates (End of Software Maintenance (EoSW)
- TDS-NetCare on devices that Cisco no longer supports (Cisco EOL)

Cisco Smart Net, it's all about the Software Updates (ALMOST)

Managing a Cisco powered network, you know this all too well that Smart Net can be expensive. But you need access to those software updates! Of course TAC and hardware replacement is great, but you're really paying high prices for Software Updates. We've heard it from customers hundreds of times. Cisco emphasizes the value of software updates as a major factor important to buying Smart Net. In Cisco's commissioned Forrester Consulting study, **"The Total Economic Impact of Cisco Smart Net Service"**, found on Cisco's website, "updates" is mentioned 11 times including this part of Executive Summary which we have highlighted.

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The Total Economic Impact of Cisco Smart Net Service

Forrester Consulting
The Total Economic Impact™ Of Cisco Smart Net Service

Smart Net is a technical support service that provides an organization's IT staff direct, anytime access to Cisco engineers and extensive Cisco.com resources. Cisco Smart Net Service differs from traditional warranty on Cisco products by providing accelerated hardware replacement options, **Cisco operating system updates**, direct access to Cisco Technical Assistance Center (TAC) staff, online troubleshooting and support tools, as well as proactive problem diagnosis. These capabilities provide an additional level of business continuity assurance within critical parts of the network environment.

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Cisco Smart Net
Service Overview

Further on in the study there is another common phrase related to Smart Net that has a lot of Cisco users confused about what software updates actually are.

Ongoing operating system (OS) software updates, including both minor and major releases within the licensed feature set

We will clear this up in the next section with Cisco documentation but to give you something to think about before we get there.

Update means Cisco Software Maintenance Releases, Minor Releases and Major Releases

[Cisco Smart Net Service Overview](#) emphasizes the value of Software Updates when buying Smart Net.

Operating System Software Support

Are Cisco software updates included with the Cisco Smart Net contract?

Yes. All Cisco OS software updates for licensed feature sets for the customer's covered platform are provided by Cisco Smart Net. Software updates include bug fixes and maintenance, minor, and major releases within a feature set. There is no additional charge for updates as long as the product remains under Cisco Smart Net coverage.

- **Major release** (version or main line): Consolidates previous bug fixes, maintenance and previous early deployment releases, and/or new capabilities into a single release—for example, 12.0 or 12.0M moving to 13.0 or 13.0M, respectively.

- **Minor release**: Internal to Cisco for Cisco OS software; synonymous with a major release—for example, 12.3 or 12.3M moving to 12.4 or 12.4M, respectively.

- **Maintenance release**: Includes bug fixes—for example, 12.2(16), 12.2(16a), or 12.2.16. Also includes new point features or early deployment release—for example, 12.2(8)T, 12.2. (8)T1, 12.2.8T, or 12.2.8T1.

What is the value of these operating system updates to my business?

Operating System updates help your business take advantage of new technology innovation, get a greater return on investment, and lower your total cost of ownership while staying competitive in today's global economy. The cost of purchasing new OS releases compared to having them included in your technical support contract can be several times more expensive. Receiving OS updates as part of your Smart Net contract can lower operating costs while giving you a higher return on investment. When properly deployed, OS updates also help you retain and extend the value of your IT investment. New OS features within your licensed feature set can enable greater network capacity, Advance security and regulatory compliance as well as better interoperability.

▲ Information referenced from
Cisco document ID: C67-713626-00 0812
Cisco SMARTnet Service: Q&A

Cisco puts a lot of value on software updates when advocating the purchase of Smart Net. Cisco heavily markets the value of software updates that come with Smart Net and that value is justified by Cisco in the resulting high cost of Smart Net.

What are software updates?

Defined by Cisco

"Updates" includes ALL "releases" within the same feature set.

"Update" includes Major, Minor and Maintenance releases. We will let the **Cisco's Glossary of Terms** do the talking. Here are the Cisco definitions:

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Cisco Glossary of Terms

Update means Cisco Software Maintenance Releases, Minor Releases and Major Releases containing the same configuration or feature set as originally acquired, unless the Customer has upgraded the applicable Hardware or Software to a configuration or feature set other than what was originally acquired, and the applicable license fee for that upgrade has been paid. Updates do not include Feature Set Upgrades.

Maintenance Release means an incremental Software release that provides maintenance fixes and may provide additional Software functions. Cisco designates Maintenance Releases as a change in the digits to the right of the tenths digit or of the hundredths digit of the Software version number [x.x.(x) or x.x.x.(x)].

Major Release means a release of Software that provides additional software functions. Cisco designates Major Releases as a change in the ones digit of the Software version number [(x).x.x].

Minor Release means an incremental release of Software that provides maintenance fixes and additional Software functions. Cisco designates Minor releases as a change in the tenths digit of the Software version number [x.(x).x].

▲ Information referenced from **Cisco Glossary of Terms** https://www.cisco.com/c/dam/en_us/about/doing_business/legal/service_descriptions/docs/terms.pdf

This is a very important definition from
Cisco's legal service description

Update means Cisco Software Maintenance Releases, Minor Releases and Major Releases containing the same configuration or feature set as originally acquired. Cisco has 3 types of Software "Updates".

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Cisco Glossary of Terms

- Maintenance releases
- Major releases
- Minor releases

Any of these releases are considered software "updates" within the originally required feature set, of which there are 6.

- LAN Lite
- LAN Base
- IP Lite
- IP Base
- IP Services
- Enterprise Services

Upgrades and Updates are very different. To move from one "feature set" to another would be considered an "Upgrade". An "Upgrade" to a higher feature set is a separately licensed fee to all Cisco users whether the device has Smart Net or not.

To finalize what Cisco means by "Update", it is clear that "Software Update" is 1 of the 3 available releases within the same feature set. Cisco's document Cisco Smart Net Service Overview and the above graphic shows the 3 types of updates available

Guess What?? Cisco provides FREE Software Updates!

In 2009, in response to the competition offering Free Software Updates on switches, Cisco began offering Free Software Updates on many devices for the LAN Lite, LAN Base, IP Lite and IP Base Feature sets. The announcement can be found on Cisco's web site here -
Cisco devices entitled to Free Software updates.

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Cisco devices entitled to FREE Software updates

Pay close attention to the Software Entitlements listed below:

Table 1   Lists Software Entitlements
Table 1.   Software Entitlements

Support Contract	LAN Lite, LAN Base, IP Lite and IP Base	IP Services and Enterprise Services
None	Unlimited maintenance updates	None
Smart Foundation	Unlimited maintenance updates	Maintenance updates: updates for proven software defects only
Cisco Smart Net Total Care™ Service	Unlimited maintenance updates	Unlimited maintenance updates

▲ Information referenced from Cisco Document ID: 1469139439808554 Updated: July 21, 2016
https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-4500-series-switches/product_bulletin_c25-696974.html

The term used in the entitlements from Cisco is Maintenance updates. The policy is exactly the same for Smart Net and no contract. Unlimited "Updates" is the important term here. We have already established "Update" covers all "releases", of which there are only 3 types, major releases, minor releases and maintenance releases. Here is the definition of "update" again from Cisco's Glossary of Terms.

Update means Cisco Software Maintenance Releases, Minor Releases and Major Releases containing the same configuration or feature set as originally acquired, unless the Customer has upgraded the applicable Hardware or Software to a configuration or feature set other than what was originally acquired, and the applicable license fee for that upgrade has been paid. Updates do not include Feature Set Upgrades.

◀ Information referenced from **Cisco Glossary of Terms** https://www.cisco.com/c/dam/en_us/about/doing_business/legal/service_descriptions/docs/terms.pdf

As shown in the table above "updates" are free for LAN Lite, LAN Base, IP Lite and IP Base feature sets for all Cisco devices including Cisco Catalyst 4500, 4500E, 4500-X, 3850, 3650, 3750, 3750 v2, 3750 E, 3750-X, 3560, 3560 v2, 3560-C, 3560-E, 3560-X, 2960, 2960-C, 2960-S, 2960X, 2960-XR and 2960P.

When a device is entitled to Free Software Updates, we believe Smart Net is not a fiscally responsible choice vs. a qualified TPM solution like Tredent's TDS-NetCare. We recommend considering Hybrid Maintenance on all devices entitled to Free Software Updates under this Cisco Policy.

Cisco has multiple "Free Update" Policies

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2017 Cisco Catalyst IOS Software Update **9300 9400 & 9500 Series Switches**

As of April 2019, Tredent has identified 221 Cisco devices that are entitled to Free Software Updates.

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2017 Cisco Catalyst IOS Software Update **2000, 3000, & 4000 Series Switches**

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Click Here to see the list of 221 Devices Entitled to FREE Software Updates

GO TO ➤ tredent.com/tredentplusdevicelist
to view the list of 221 Devices Entitled to FREE Software Updates

What is Cisco End of Software Maintenance (EoSW)?

Most Cisco owners are unaware that many Cisco devices stop receiving software updates 4 years after the First Customer Release (FCS) of the product. Cisco has a name for this date, **"End of software maintenance releases date."**

The Cisco definition of the **End of Software maintenance releases date:**

_____

"The time period that Cisco may release any software maintenance releases or bug fixes to the software product. After this date, Cisco Engineering will no longer develop, repair, maintain, or test the product software."

_____

▲ Information highlight is referenced from **End of Product Life Cycle: Overview**
https://www.cisco.com/c/en/us/products/eos-eol-policy.html

After the EoSW date Cisco will no longer provide software updates for a particular device. In the following graphics taken from Cisco's web site you can see that Cisco is no longer providing software updates after year 4 (48 months). You can also see very clearly that from months 48-96 Cisco is providing "**Cisco TAC Support Only**" for devices past the EoSW date. Cisco continues to recommend Smart Net for devices after the EoSW date up till the End of Support at month 96.

Cisco IOS Software Life Cycle Time Frames

Figure 6. Cisco IOS Software Life Cycle Time Frames — IOS T and IOS S, and Release 12.0S
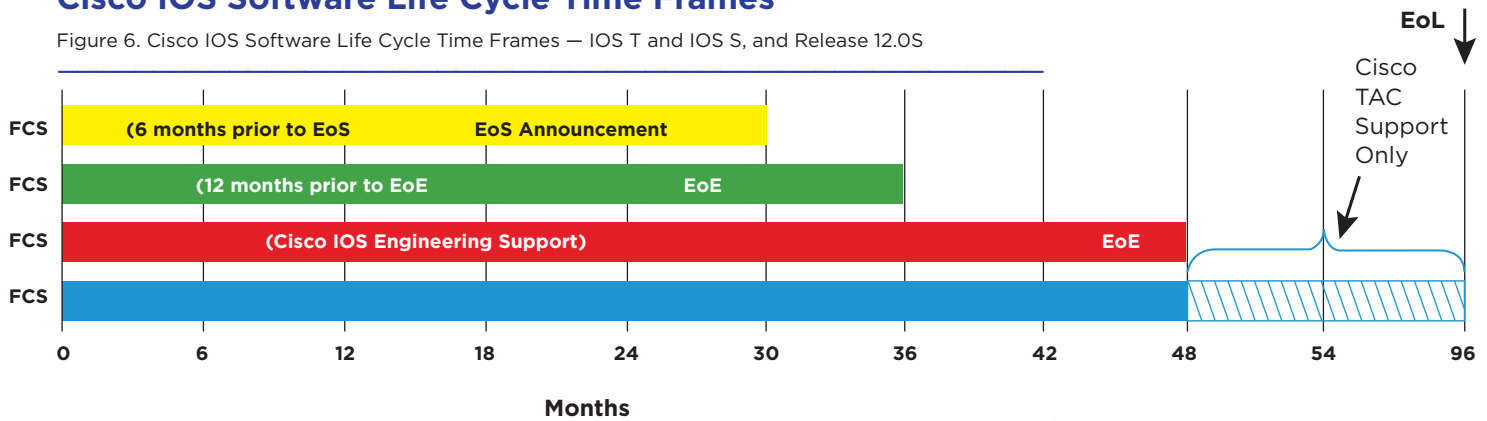
Notes:

- The End of Engineering (EoE) schedule is up to 48 months from FCS.
- The End of Sales (EoS) and EoL milestones are based on EoE time frames.
- Cisco recommends that release review and migration planning start at 36 months.

◄ Image referenced from Cisco document C11-719867-01 07/16 **Cisco IOS Software Reference Guide**

Software Lifecycle

The diagram below shows the typical phases and milestones in the lifecycle of a software release.
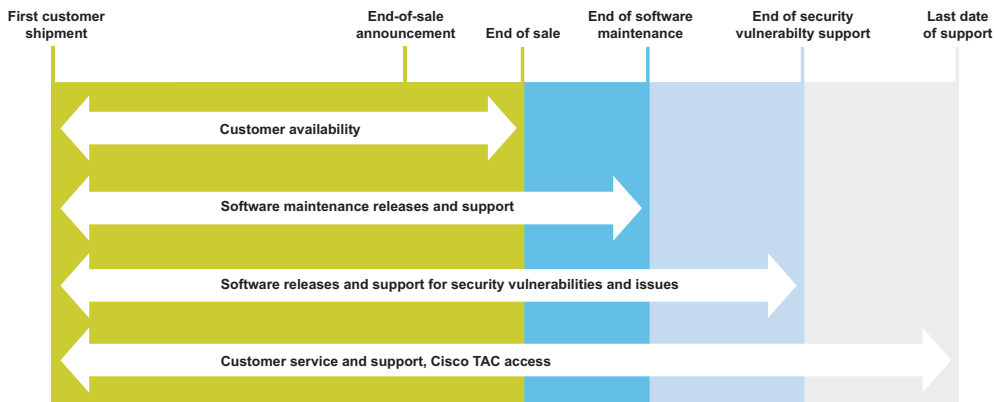
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Cisco IOS Software Reference Guide

▲ Information highlight is referenced from **Cisco IOS and Cisco NX-OS Software Release Reference Guide** https://tools.cisco.com/security/center/resources/ios_nx_os_reference_guide

End of software maintenance (EoSW): The last day when Cisco Engineering may release any final software maintenance releases or bug fixes for the release. After this date, Cisco Engineering stops developing, repairing, maintaining, and testing the release; support for the release is provided via supported successor releases.

The image below is a highlighted snapshot of a typical Cisco End of Sale Announcement. Take notice of the 4-year difference from EoSW to Last Date of Support.

Table 1. End-of-Life Milestones and Dates for the Cisco Catalyst 2960 and 3560 8-Port and 12-Port Switches

Milestone	Definition	Date
End-of-Life Announcement Date	The date the document that announces the end of sale and end of life of a product is distributed to the general public.	January 28, 2013
End-of-Sale Date	The last date to order the product through Cisco point-of-sale mechanisms. The product is no longer for sale after this date.	January 28, 2013
Last Ship Date: HW	The last-possible ship date that can be requested of Cisco and/or its contract manufacturers. Actual ship date is dependent on lead time.	October 27, 2013
End of SW Maintenance Releases Date: HW	The last date that Cisco Engineering may release any final software maintenance releases or bug fixes. After this date, Cisco Engineering will no longer develop, repair, maintain, or test the product software.	July 29, 2014
End of Routine Failure Analysis Date: HW	The last-possible date a routine failure analysis may be performed to determine the cause of hardware product failure or defect.	July 29, 2014
End of New Service Attachment Date: HW	For equipment and software that is not covered by a service-and-support contract, this is the last date to order a new service-and-support contract or add the equipment and/or software to an existing service-and-support contract.	July 29, 2014
End of Service Contract Renewal Date: HW	The last date to extend or renew a service contract for the product.	October 24, 2017
Last Date of Support: HW	The last date to receive applicable service and support for the product as entitled by active service contracts or by warranty terms and conditions. After this date, all support services for the product are unavailable, and the product becomes obsolete.	July 31, 2018

HW = Hardware OS SW = Operating System Software App. SW = Application Software

▲ Information referenced from **End of Sale End of Life**
ID: 1518503012870275 Updated: January 28, 2013

One last reference and direct language about the Cisco EoSW policy taken from the below link regarding Cisco IP phones called the Cisco IP Phone Firmware Support Policy (Document ID: 116684)

———————————————————————

"When a phone reaches End of Software Maintenance (EoSW), it means that Cisco is not obligated to release any further software updates for that model. There might be exceptions made for critical vulnerabilities, but these are always evaluated on an individual basis. The Cisco TAC will work on cases for products that have reached EoSW, but if a problem is discovered with the phone software, it will not be fixed."

———————————————————————

▲ Information highlight is referenced from Cisco Document ID: 116684
Cisco IP Phone Firmware Support Policy Updated: December 17th, 2013

EoSW is an important milestone when considering maintenance options for Cisco equipment. After the EoSW date, Cisco is not providing the full service value of Smart Net and Smart Net is not a fiscally responsible choice. We recommend TPM on most devices past their EoSW date.

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End-of-Sale and End-of-Life Announcement for the Cisco Catalyst 2960 and 3560 8-Port and 12-Port Switches

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Cisco IP Phone Firmware Support Policy

What about Security Vulnerabilities?
(Hint: they are free to all)

Customers considering Hybrid Maintenance options should be aware of the Cisco Policy relating to Security Vulnerability. We have highlighted the link and QR Code important and pertinent parts of the policy below from the **Security Vulnerability Policy**

Here is language from the Incident Response Eligibility section of the **Security Vulnerability Policy**.

https://tools.cisco.com/security/center/resources/security_vulnerability_policy.html

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Security
Vulnerability
Policy

Incident Response Eligibility

Customers with service contracts receive incident response assistance for any incident in which a Cisco product plays a significant role, regardless of whether there is an identified problem with a Cisco product.

All customers, regardless of contract status, receive free incident response assistance, similar to that offered to contract customers, for any incident that involves a known or reasonably suspected security vulnerability in a Cisco product.

Cisco reserves the right to determine the type and degree of assistance it may offer in connection with any incident and to withdraw from any incident at any time. Cisco may offer customers incident response services free of charge. Cisco may give special consideration to security incidents that involve actual or potential threats to persons, property, or the Internet as well as requests from law enforcement agencies or formal incident response teams.

Security Software Updates

PSIRT will investigate and disclose vulnerabilities in Cisco products and services from the date of First Commercial Shipment (FCS) to the Last Day of Support. Cisco customers with service contracts that entitle them to regular software updates should obtain security fixes through their usual update channels, generally from the Cisco website. Cisco recommends contacting the TAC only with specific and imminent problems or questions.

"As a special customer service, and to improve the overall security of the Internet, Cisco may offer customers free software updates to address high-severity security problems. The decision to provide free software updates is made on a case-by-case basis. Refer to the Cisco security publication for details. Free software updates will typically be limited to Cisco Security Advisories."

▲ Information highlight is referenced from **Cisco Security Vulnerability Policy**
https://tools.cisco.com/security/center/resources/security_vulnerability_policy.html

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General Security
Related Queries

If Cisco has offered a free software update to address a specific issue, non-contract customers who are eligible for the update may obtain it by contacting the Cisco TAC using any of the means described in the **General Security- Related Queries** section of this document. To verify their entitlement, individuals who contact the TAC should have available the URL of the Cisco document that is offering the update.

After the End of Sale, the availability of security fixes provided by Engineering is defined in the product's End of Sale bulletin. (See the **End-of-Life Policy** for details.) The End of Sale Bulletin may define one or more of the following milestones."

• The End of SW Maintenance milestone identifies the last date Cisco may release a software maintenance release that could include security fixes.

• The End of Engineering Support for the Cisco TAC milestone is the last date that Cisco Engineering may consider the repair and support of confirmed hardware or software defects for a product.

• The End of Security and Vulnerability Fixes milestone identifies the last date that Cisco may provide support for network-impacting security vulnerabilities.

Note: If the End of Security and Vulnerability Fixes milestone is not defined, the End of SW Maintenance and End of Engineering Support milestones will determine the last date Cisco Engineering will provide fixes.

All aspects of this process are subject to change without notice and on a case-by-case basis. No particular level of response is guaranteed for any specific issue or class of issues.

Some things should ALWAYS have Smart Net

Cisco does an excellent job with Smart Net and some devices should ALWAYS have a Smart Net contract.

How to pick a Qualified TPM

- 24 x 7 x 365 Telephone Technical Support
- Certified Engineers
- Online Ticketing Portal
- 10+ Years TPM experience
- Flexible Contract Terms
- Money Back Guarantee
- Hybrid Network Contract & Device Management software
- Member of an Industry Association such as the SIA
- Provides multiple references
- Has "IN-HOUSE USA based" TAC support team with appropriate expertise
- Knowledge of devices that are entitled to Free Software Updates, EoSW and EOL.

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Send your list of Cisco devices to get our Hybrid Maintenance for Cisco recommendations.

Send your list
of Cisco device

Summary & Recommendations

- TDS strongly recommends a Hybrid Strategy to Cisco Maintenance.
- When software updates are FREE, or are no longer available on specific devices, use a Qualified TPM to support these devices.
- When software updates are necessary for a device and are only available through the OEM, support the device through the OEM
- Hybrid Maintenance is a strategic blend of OEM Maintenance and TPM such as Tredent's TDS-NetCare.
- It is a smart strategy of putting the most fiscally responsible coverage on each device based on the availability or non-availability of Cisco Software Updates.
- A Qualified TPM will be able to provide Hybrid Maintenance Pricing that follows these recommendations

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