Session Name: Cisco Catalyst 6500 Series Supervisor Engine 2T Technology: An In-Depth Look
Session Number: 201239960
Date: Wednesday, August 17, 2011
Starting Time: 11:24 AM

Question	Answer
I heard that latency was introduced? how come?	Can you clarify your question please?
We're moving towards Nexus 5500 much to my chagrin	Yeah.... Nexus is a good product for. 6500 is really an amazing and very flexible product
but I still want to keep up with this in case I go work somewhere else	Good call!
port to port latency has increased from the old 720 platform	The latency took a slight increase mainly due to a dual-pipe forwarding architecture that adds features on both ingress and egress side. If you are looking for a ultra low latency device the 6K might not be the answer even with the current Supervisor
will we cover using the new SUP-2T with existing line cards and upgrades required?	Sure enough! Coming up soon!
what does FCS stand for?	First Customer Ship - > when the card is first shipped.
Any estimate when the 2T will be on the DoD approved products list?	US Public Sector is a key customer for 6500. We are working with sales to get appropriate government certifications on Sup2T. Please contact me offline to discuss details and timelines
Any estimate when the 2T will be on the DoD approved products list?	Kris - We are getting ready to start the JTIC/ASLAN certification for Sup2T. Please send an e-mail to shah@cisco.com and we should be able to get you the latest dates for when this certification is completed.
Will this Supervisor be available for the 6506?	Yes, the sup2T will be available for all the E-serie chassis. 3E, 4E, 6E, 9E 13E
Will this Supervisor be available for the 6506?	I should say, 'is available' as it is shipping :)
Does a DFC4 upgrade to a 67xx card essentially make it a 68xx card?	Yes and No, Yes from a feature set. No from a 'show module' point of view. It will still show as a 67XX with a DFC (different PID than 68XX), but it will have the same feature sets as the 68XX
Is there an FCS date for OTV on the 6500 platform?	Not yet. we can talk offline for more details. At FCS, sup2T supports VPLS natively
Is there an FCS date for OTV on the 6500 platform?	OTV is on our radar/roadmap for CY13. Hardware is capable to support OTV. We have to enable it in software.
Is the 6513-E with Sup2T and 69xx card the only chassis available for the 80Gbps backplane connectivity?	no 80G per slot is available on all E series chassis
Id lke to know more about OTV and roadmap as well	We support VPLS natively on Sup2T which is a standards based solution and enables DCI at high performance. OTV is on our radar as well. You can contact me offline to discuss your deployment needs
Will OTV be a licensed feature similar to Nexus 7K?	it is too early to comment on how we will enable/productize it. Currently VPLS, an alternative to OTV, is packagaed in our advanced image. No additional license.
Will OTV be a licensed feature similar to Nexus 7K?	There will not be a license for OTV on C6K. It will reside in the Advanced Enterprise Services image which also has support L2VPN and VPLS. I would also encourage you to explore the Native VPLS capabaility on C6K/SUp2T. It essentially solves the problem.
Will OTV be a licensed feature similar to Nexus 7K?	and is shipping today.
Does the storm-contol feature come available on the new line cards?	yes, the feature is similar to the existing WS-X6708
Will Trill be coming to the 2T Platform?	It is on our radar. Hardware is capable of supporting it. It will be great if you can contact me offline with your requirements. Will help us to build the use case and interest list.
Will Trill be coming to the 2T Platform?	The hardware is capable of Trill. Trill is currently on the radar for CY13. Could you share with me your need for trill? spasquie@cisco.com
Will Trill be coming to the 2T Platform?	The 4p 40G / 16p 10G linecard is capable of supporting TRILL in hardware. We plan to release this capability is software in a future release depending on customer requests/priorities. At this point of time, it is a radar item on the roadmap.
Any oversupscriptions here?	it depends on linecard - 6908 is non blocking. No over subscription there
Any oversupscriptions here?	8 port 10GE linecard is non-oversubscribed. The 4p 40GE / 16 port 10GE linecard is 2:1 oversubscribed. However, you can run this linecard in performance mode, essentially using half the number of ports without oversubscription.
does super2T support 6708 linecards ?	Sup2T supports all CFC linecards. 6708+DFC3 cannot be upgraded to DFC4. it needs to be traded in for 6908
does super2T support 6708 linecards ?	Read it as all 67xx CFC linecards
does super2T support 6708 linecards ?	Sup2T does not support 6708 linecard. We have introduced a 8p 10GE linecard for Sup2T which is non-oversubscribed and provided embedded 802.1ae support at almost the same price as the 6708. If you want to move to this new 6908 linecard with Sup2T, there

does super2T support 6708 linecards ?	are attractive migration credits available. Please talk to your account team about this option.
does super2T support 6708 linecards ?	Just to clarify, we do not support CFC on the 6708/6716. So if you have 6708, you will need to trade to 6908, and we have special program for that.
Sup2T support NBAR in hardware (like the Sup32 PISA)?	No, I will talk about very extensive Netflow Support but NBAR is not planned
Sup2T support NBAR in hardware (like the Sup32 PISA)?	We are planning a new services module which is capable of providing application recoginition. I would also encourage you to look at the new Network Analaysis module which provides application visibility (not stateful apps) at 15x the performance of the pre
Sup2T support NBAR in hardware (like the Sup32 PISA)?	vious NAM.
were about to upgrade our Data Centre: Currently have 6509 with X65xx modules. We're looking a ground up build. Want are the advantages of the new 6509 E vs Nexxus 7K?	Allan - It is a trade-off between performance and services. Catalyst 6500 will give you optimal 2 terabit performance with maximum services (IPv6, MCast, MPLS, Comprehensive Netflow, Integrated Service Modules etc). On the other hand Nexus 7k maximizes per
were about to upgrade our Data Centre: Currently have 6509 with X65xx modules. We're looking a ground up build. Want are the advantages of the new 6509 E vs Nexxus 7K?	The difference will be in the feature sets. cat6k is very features rich, and proposes a lot of services. It will be the same operational model as what you are used to. Same CLI, Same config... more performances.
were about to upgrade our Data Centre: Currently have 6509 with X65xx modules. We're looking a ground up build. Want are the advantages of the new 6509 E vs Nexxus 7K?	formance and provides you Unified Fabric architecture (Fiberchannel/Ethernet convergence)
When I asked earlier about storm-control I should have specified but it is available on the copper one gig cards?	Storm control is a feature of the port asic not the transceiver, what line card are you refering to ?
need calrification, Roland mentioned that the Sup-2T works with 67xx modules if using CFC and above you are saying no, will the 6716 with CFC work with Sup-2T? There are a lot of customers that will be looking to upgrade so clairification is critical!!	6716 and 6708 CANNOT work without a DFC
need calrification, Roland mentioned that the Sup-2T works with 67xx modules if using CFC and above you are saying no, will the 6716 with CFC work with Sup-2T? There are a lot of customers that will be looking to upgrade so clairification is critical!!	And to add to what Patrick wrote, 6716 need DFC. Either DFC3 for sup720/sup720-10G deploiement, or a DFC4 for Sup2T
need calrification, Roland mentioned that the Sup-2T works with 67xx modules if using CFC and above you are saying no, will the 6716 with CFC work with Sup-2T? There are a lot of customers that will be looking to upgrade so clairification is critical!!	The 6716 (both copper and fiber) can be upgraded to DFC4(XL) the 6708 cannot but we have an exchange program that allow you t upgrade the 6708 to the 6908
need calrification, Roland mentioned that the Sup-2T works with 67xx modules if using CFC and above you are saying no, will the 6716 with CFC work with Sup-2T? There are a lot of customers that will be looking to upgrade so clairification is critical!!	The main reason being that those module are not connected to the BUS, just the fabric...
Is the fiber channel ethernet convergence available on the 6500?	No, FCoE is not on our roadmap
Is the fiber channel ethernet convergence available on the 6500?	If this is a strong requirement, you need to look at the nexus line. The cat6k fabric is not lostless.
Thanks Patrick, and 6708 DFC is not upgradeable but the 6716 DFC3 is upgradeable to DFC4?	yes both 6716-10G (fiber) and 6716-10T (copper) are upgradable to DFC4(XL)
can you provide information on how much latency has increased from port to port?	Patrick answered this before. Copying his answer. The latency took a slight increase mainly due to a dual-pipe forwarding architecture that adds features on both ingress and egress side. If you are looking for a ultra low latency device the 6K might not be
can you provide information on how much latency has increased from port to port?	We are looking at a way to publish some data on that topic but it is difficult to draw firm comparaison since the feature (wheter active or not in the configuration) are avalable at bootup.
Are there use cases where having at least one 6xxx with SUP2T AND at least one N7K makes sense?	Hi Brian, the answer is 'it depends'. It really depends on your deploiement and what kind of features you need... The best is for you to engage with a cisco representative to help you define your need/requirements to use the most appropriate product.
is cisco providing numbers on latency increase?	Louis, we do not publish latency numbers because of the number of iterations involved in testing. The bottom-line is if you are using a C6K in your environment today, the latency change is minimal and you should be able to upgrade to Sup2T without an impac
is cisco providing numbers on latency increase?	If you reach out to your account team, we can work to get you exact information for your environment.
Can you apply MACsec to routed interfaces on the 6500?	Hi Austin, yes you can do this with sup2T.
Currently we have 6500 w/ WS-X6148A-GE-45AF line cards for one gig copper connectivity, but they don't offer storm-control. Is there a line of cards for T2 sup that do offer it for copper one gig ports?	no, this is a limitation of the port asic not the forwarding engine
does a sgt alter the size of the frame? where is it inserted in a frame?	It is inserted in the CMD (cisco Meta data), it increases a little bit the size of the frame. With Sup2T, the CMD be either at L2, or L3.
does a sgt alter the size of the frame? where is it inserted in a frame?	If you have interest for SGT, please contact me offline spasquie@cisco.com, I will be happy to more in details with you.
Maybe we haven't gotten there yet, but will MacSec be supported on the 3750s in the future?	It is supported on the new Wall-E uplinks module . It is shipping.
Maybe we haven't gotten there yet, but will MacSec be supported on the 3750s in the future?	MACSEC is/will be supported on all switching platforms to provide an end to end solution. Please check 3k data sheets to get details on HW & SW version that enables this
Where would you use TrustSec?	TrustSec makes sense for the overall network: enterprise campus and DC, university... it really simplifies your network security.
Where would you use TrustSec?	1) Where you need encrypted links for robust security to protect against wire tapping etc

Where would you use TrustSec?	2) Where you need Role Based Access Control - a revolutionary new way of doing ACL allowing you to allow/deny traffic to select servers depending on the role a person has in the network.
This may have been covered before, but will this webex session be available to watch later as well?	Yes it will. You'll get an email on where to find this
Thanks Patrick, we just have creative uses who like to look cables on mini-switches, creating storms. Out 4500 series switches offer this storm-control, it's been very helpful. We currently have one 6500 that has user/access ports on it, make me nervous	Storm are usually created by SPT loop the accuracy of the port asic in both detecting and limiting the effect of the storm is limited if your storm are created by SPT misscondfiguration/incorrect behavior I would recommend other (more robust solution) like
Thanks Patrick, we just have creative uses who like to look cables on mini-switches, creating storms. Out 4500 series switches offer this storm-control, it's been very helpful. We currently have one 6500 that has user/access ports on it, make me nervous	loopguard, rootguard, bpdu guard, etc ...
Thanks Patrick, we just have creative uses who like to look cables on mini-switches, creating storms. Out 4500 series switches offer this storm-control, it's been very helpful. We currently have one 6500 that has user/access ports on it, make me nervous	also rate-limiter can be used to limit the amount of the traffic hitting the CPU
Can SGT tagged frames be carried across a non-SGT aware path?	Yes, with Sup2T, as we can put the SGT at the L3, before the payload. So non-cisco equipment can route the frame. The other solution is to have SXP software session. L3 SGT will be more scalable as it is hw based
we do use the bpduguard but need to turn it off for mini-switches that also run RSTP. I'll have to look into the rootguard/loopguard/rate-limiter features closer. Thanks!	Roland is just talking about it
yes, I'm hearing this!	look at the UCAST UNKOWN FLOOD
Does the Sup2T increase the numebr of supported IPSLA tests?	
will do.	Sup2T comes with 2 ways to limit traffic to the cpu 1) rate-limiter 2) control plane policing. I suggest looking into the config guide for those 2 features to see if it can help you in mitiguating the effect of storm
With CoPP on Sup720, when setting a CoPP policer, the Sup720 did not keep track of the aggregate policed traffic on DFC cards which caused CoPP to occur in software when the aggregate policed traffic from the DFC cards hit the CPU. This itself could...	yes see response below
With CoPP on Sup720, when setting a CoPP policer, the Sup720 did not keep track of the aggregate policed traffic on DFC cards which caused CoPP to occur in software when the aggregate policed traffic from the DFC cards hit the CPU. This itself could...	Hi Lorn, sup2T as a new feature: Distributed policer, so all the DFC share tokens, so you have a common policer for the overall system. This should solve your problem.
...result in high cpu utilization. Does the Sup2T keep track of aggregate policed traffic on DFC cards to prevent this?	Yes, this is supported with an optional feature avail in Sup2T called distributed policer..so we can track policed traffic across multiple DFC..for regular QOS and CoPP
could you explain again what could happen with non-SUP2Ts when you modify an ACL (atomic vs. non-atomic?)	It depends on what ACL you are modifying. The key message is that now you have additional capability to do config check on a ACL before you provision it to impact live traffic.
could you explain again what could happen with non-SUP2Ts when you modify an ACL (atomic vs. non-atomic?)	Hi Michael, on non-sup2T systems, we modify the existing ACL, so it can slightly disrupt the traffic going thru this acl. With Atomic commit, the traffic is not disrupted, as we do not modify the one currently running.
could you explain again what could happen with non-SUP2Ts when you modify an ACL (atomic vs. non-atomic?)	with non-atomic while the ACL programming is occuring all traffic on the interface will be dropped...with atomic update we will no tdropp all traffic rather we will enforce the existing ACL
could you explain again what could happen with non-SUP2Ts when you modify an ACL (atomic vs. non-atomic?)	So the bottom line: atomic = no traffic disruption, non atomic = slight traffic disruption when the ACL is being modified.
could you explain again what could happen with non-SUP2Ts when you modify an ACL (atomic vs. non-atomic?)	To clarify - my response on config check was for ACL dry run. Once you've validated the config, then atomic commit helps minimize traffic disruption
Does the SUP-2T remove some of the limitations on what slots certain cards can operate in? e.g. WiSM onlny in slot 1.....	Sup2T has dual fabric channel to all slots so there is no slot restriction. The supervisor slots are fixed though in 13E chassis
is this upgrade available for the 4510r and 4506e?	could you please clarify?
Is vpls a layer 2 technology?	VLS extends an L2 braodcast domain..using L3 technology in between
Is VPLS only supported on GRE tunnels? Does that include IPSEC protected GRE? What about tunnel mode ipsec?	The point we are making here is that we are now supporting VPLS in hardware on all ethernet based linecards no longer need to use the SIP/SPA modules
vMotion&FT are very limited from delay perspective. Any accelerations to address this limitations?	Inside the switch itself, I do not believe so. That is really something a optimizer like vWAAS would do
Is it simply a way to extend a layer 2 network goegraphically?	Yes that one of the big benefits especially between more than two sites..and lots of VLANs!!
can we use sup2t on Catlyst 4500 E	No, catalyst 6500 and catalyst 4500 have different architecture, form factor... those are 2 different products.
ok, thanks	
with regards to VRF-Lite limit on Sup 720 compared to that on Sup2T, I have seen different information how many vrf can be supported (e.g on Sup720 more than 8) can you clarify clarify: is each VRF means in this context means one created by ip vrf command?	Hi Hong, the limit is 8 on sup720, but it is not enforced. We just believe that beyond 8, the configuration becomes harder.
with regards to VRF-Lite limit on Sup 720 compared to that on Sup2T, I have seen different information how many vrf can be supported (e.g on Sup720 more than 8) can you clarify clarify: is each VRF means in this context means one created by ip vrf command?	On sup2T, the limit is 32, as we have EVN coming, that will greatly simplify the configuration. The HW limits are different (number of VPN ID) we can handle.
It looks like VPLS is a L2TPv3 extension... Is that correct?	VPLS is a virtual private network (VPN) technology. In contrast to L2TPv3, which allows only point-to-point layer 2 tunnels, VPLS allows any-to-any (multipoint) connectivity.

It looks like VPLS is a L2TPv3 extension... Is that correct?	Yes similar benefit except L2TPv3 is for site to site or between two nodes, with VPLS the L2 services provided across more than two sites
is this PPT available to download after the presentation?	A link to this presentation will be emailed to you
please, send this PPT link to me as well! thank you!	cost a dollar
:) thanks	anytime!
On the Sup720, Netflow and NAT do not live well together because the flows on interfaces with NAT force traffic to the CPU. Does this limitation exist with the Sup2T?	Hi Joe, I'm not 100% sure, I will have to check offline. I believe the limitation is gone, but will need to confirm. Send me a mail at spasquie@cisco.com, I will get you the exact answer.
Could I get the link to the power point as well? I can pay in bad singing....	OK let me get Katie to unmute your line then have at it!
Sup2T supervisor module... is this upgrade available for the 4510r and 4506e?	Hi John, sup2T supervisor is only for 6500E chassis. 4500 and 6500 are 2 different products
is there a similar upgrade for the 4500 series?	not really, the latest 4500 supervisor is the sup7e, but it has a different feature sets from 6500. You will get much more features with 6500, as you saw today.
has Sup2T performance been reviewed/compared to competitors by the likes of Gartner or other research companies yet	Darren - There are analysts like IDC who have research notes out on Sup2T. Note that Sup2T is not about maximizing performance. It is all about optimizing performance and maximizing services and you will not see any platform come close to services on c6K i
has Sup2T performance been reviewed/compared to competitors by the likes of Gartner or other research companies yet	n the next 3-4 years. This is the reason 2T has gotten rave reviews from analysts, press and customers.
Can you do MACSEC on 1G links or just 10G links?	