IEEE 802.1 Minutes, Interim Meeting Berlin, May 2005

Attendees

Hugh	Barrass
Jim	Battaglia
Mike	Borza
Paul	Bottorff
Peter	Busschbach
Dirceu	Cavendish
Frank	Chao
Paul	Congdon
Russell	Dietz
Kristian	Ehlers
Anush	Elangovan
David	Elie-Dit-Cosaque
Lars	Ellegard
Norm	Finn
Mickael	Fontaine
Yukihiro	Fujimoto
Ken	Grewal
Steve	Haddock
Gopal	Hegde
Eduardo	Jacob
Tony	Jeffree
Michael	Johas Teener
Tetsuya	Kawakami
Ajung	Kim
Benny	Koben
Stephan	Korsback
Yannick	Le Goff
David	Martin
Jon	Matias Fraile
Dinesh	Mohan
Bob	Moskowitz
Hiroshi	Ohta
Karen	Randall
Allyn	Romanow
Jessy V	Rouyer
Purificacion	Saiz Augustin
Panagiotis	Saltsidis
John	Sauer
Mick	Seaman
Curtis	Simonson
Larry	Stefani
Muneyoshi	Suzuki
Yoshihiro	Suzuki
Genadi	Velev
John	Viega
Manoj	Wadekar
Ludwig	Winkel
Ilan	Yerushalmi

Meeting Monday, May 10, 2005

Opening Remarks and Administrative stuff – Tony Jeffree

The IEEE patent slides were shown to the committee and Tony reviewed the IEEE patent policy.

Inappropriate topics for discussion in IEEE meetings were pointed out.

Where to meet in Sept. STG 15 isn't going to meet in Sophia Antipolis after all. We will wait to see when and where relevant ITU groups are meeting, then decide on our schedule.

Task Group agenda- Mick Seaman

Explanation of ballot process. Confirmation ballot means no new things can be added. Speed of confirmation ballot decides speed, depends on quality of comments. 802.1 Q one more confirmation ballot, same with 802.1ad, another confirmation ballot.

Review of Agenda

Monday

1.30- 2.00 : Host introduction, housekeeping etc.
Agenda setting and confirmation for week.
2.00- 3.00 : P802.1Q-REV conf ballot resolution (Jeffree)
3.00- 4.00 : P802.1ad conf ballot resolution (Haddock)
4.00- 5.30 : 802.3 Residential Ethernet (Teener)
Latency objectives, discussion - how to achieve with bridging

Tuesday

9.00-12.30 : P802.1AE WG ballot resolution (Romanow)
2.00- 5.30 : P802.1ag task group ballot resolution (Finn)
ITU-T SG13/15 updates (Hiroshi)
TMOC Liaison
2.00- 5.00 : P802.1AE WG ballot resolution cont. (Romanow)

Wednesday

9.00-12.30 : P802.1ah Provider Backbone Bridges (Bottorff)
P802.1ak MRP, Registration Protocol (Jeffree)
9.00-12.30 :[P802.1AL] Device Identification (Borza/Viega)
2.00- 5.30 : P802.1AE WG ballot resolution cont. (Romanow)
2.00- 5.30 :[P802.1AM] Media independent RF management (Stefani)
P802.1ag task group ballot resolution (Finn)

Thursday

9.00-12.30 : P802.1aj TMR, Two Port MAC Relay (Jeffree)
TMR Scope revised (Martin)
NWI - Shortest Path Bridging PAR (Seaman)
P802.1ac MAC Service Definition
PAR timescales etc. (Jeffree)
2.00- 5.30 : NWI - Virtual & Multicast Ports, Forwarding
Table Update for 802.11 (Seaman/Finn)
802.3 liaison - Congestion Management (tbd)
NWI - Latency in bridged networks (Seaman)

Friday

9.00-12.00 : P802.1ad conf ballot resolution, conclude (Haddock)
P802.1AE WG ballot resolution, conclude (Romanow)
FYI session, as needed

802.1Q Rev –Tony Jeffree

Discussion of why there should not be a frame format. Dirceu's comment.
Discussion on how to handle David James comments on style.

802.1ad Ballot Resolution- Steve Haddock

Residential Ethernet – Michael Teener
http://www.ieee802.org/1/files/public/docs2005/new-johas-teener-objectives-for-802-1-0705.pdf

Focus on background and requirements.
Requirements
Streaming data, time sensitive, want admission control.
Want Ethernet for the backbone, an enhanced Ethernet
Jitter/wander/synchronization requirements
Maximum time interval error diagrams
Latency requirements, most stringent for music – 10 ms.
200 Mbs and 1Gbs for a home is common wisdom today, for HD video, which is dominating.
Manageability a must- so some bandwidth must be reserved for this – 25% of bw.
Solutions
IETF- SNTP, NTP
IEEE 1588- clock synchronization
QoS:
Over provisioning – doesn't work
Add priorities
Assume that application knows what bandwidth it needs.
3 proposals on the table
Needs to solve problem in Bridges
Proposal to use 1588 at the MAC layer or just above.
Mick makes observation that the important time is from end point to end point, not within the Bridges. This being the case, the end2end argument suggests fixing it at the endpoints only.
Michael Teener- this is a time info protocol to be used in a time synch proto at higher level.
Mick says that going through a network of Bridges, will never encounter a queue at all the Bridges.
Subnet Bandwidth Manager (SBM) – does what ResE wants, says 802.1.
Does L2 reservation for bandwidth, then don't need to label the flow, once let the flow in.
Pacing –desirable, not necessary.
Norm- pacing good when aggregating. But here assuming each flow is pacing itself. No matter what, all sources can be synchronized, so that will jam the network and obviate pacing. Then end to end must allow for such synchronization.

Tuesday

802.1AE Ballot Resolution- Allyn Romanow

Split into two groups, Inteworking and LinkSec
Interworking – 802.1ag task group ballot resolution- Norm Finn
Updates from ITU-T SG13/15
TMOC
802.1AE
Multi-Access – Mick Seaman
Motivation
Up till now concerned about not changing topology due to security
Provide security for a shared media LAN, use a different port in the switch, people can't afford another switch
PC and Phone is the new situation, want to separate security for phone and PC
Don't have multiple switch ports to each disk, big cost issue, so separating out devices on the desktop of value
What's done today, what's ideal, how move from one to another.
.1X needs to change to include SecTAG
To implement this, creating virtual ports, Bridge relay has to figure out how to relay between these ports, not natural how to do this
Need to replicate
If want to just do .1X, RADIUS like this, can do without changes, but if want to do encryption, need non-obvious switch support.

Two cases – have SecTAG and no SecTAG, when don't use Source Address for demuxing
For multiple virtual machines, need SecTAG
Choice of per PAE or one centralized PAE

How do I run multiple 802.1X on my shared hub? This addresses this question.

Scope of Confidentiality – Ken Grewal
http://www.ieee802.org/1/files/public/docs2005/ae-grewal-encryption-changes-0505.ppt
Accommodation of legacy technologies- Optional Confidentiality Offset
Some deployed technologies use the IP data that are covered by confidentiality in .1AE
Layer violation, short cut for acceleration
These technologies pertain to end node. Virtualization. Hardware demuxes data between machines.
Receive side scaling- load balancing in a multiprocessor. Including buffering, allocation to CPU, etc.
Options for how to address this problem
-Don't use AE
-Use AE without confidentiality. Concern that confidentiality should be policy based, rather than mandated. May be required.

-Hardware assist for AE, need migration path
-Modify AE to accommodate existing technologies

Propose fixed encryption offsets- what exists today rather than supporting future.
This is meant as a short term fix for an existing problem
Negotiable offsets is problematic – there's no end to it, IKE v1 has this and it's a big problem.
This is a migration problem, he is trying to solve. An interim solution, not a general one.
Negotiated via a control channel
Rationale for offsets 30 and 50 – for IPv4 and IPv6

Mick – Cl 14- changes for this option
Negotiated by key agreement protocol

High performance server back ends

Disposition of comments for .1AE/D3.0

Discussion of AAD deletion

GCM uses A and AAD, imprecisely
Created some inconsistencies in the text.
Cleared up by not talking about AAD, which was more generic, and just talking about A which is well defined for GCM.

Talk about DA, SA, SecTAG, User Data, Secure Data, ICV, PN, SCI
And A, P, C, T, IV, K

Got rid of GMAC as a separate C.S. so don't have to take down network in order to switch from confidentiality to integrity only or vice versa. But is not to be understood as allowing use of either within a single CA.
In multi-access, each CA can be different GCM mode, and different C.S.

Wednesday

Met separately, LinkSec and Interworking
Interworking – 802.1ah Provider Backbone Bridges- Paul Bottorf
802.1ak MRP, Multiple Registration Protocol- Tony Jeffree
LinkSec - Device Identity – John Viega, Mike Borza
Worked on tutorial and draft.
In the afternoon, .1AE didn't meet.
802.1ag resolution of ballot comments – Norm Finn
802.1AM Media independent FR management- Larry Stefani
http://www.ieee802.org/1/files/public/docs2005/new-stefani-wireless-management-five-criteria-0405.doc

http://www.ieee802.org/1/files/public/docs2005/new-stefani-wireless-management-par-0405.doc
Went over structure and outline of a potential spec

Thursday

802.1aj Two port MAC relay- Tony Jeffree

Discussion of scope - David Martin

http://www.ieee802.org/1/files/public/docs2005/aj- martin-tpmr-scope-revised-v00.ppt

Review of very early draft- clause by clause

Add to scope

Shortest Path Bridging Par - Mick Seaman

http://www.ieee802.org/1/files/public/docs2005/new-seaman-shortest-path-par-0405-02.htm

Go over Par in detail.

Retain support for all existing topologies when this is deployed

Not throwing away old

Scope- A single VLAN supported by multiple VIDs, some concern this isn't the best way to describe what this is because people see VLAN and VID as one to one. But Mick is certain this description is good.

Norm wants PAR to also take on fixing the brain dead Bridge problem.

The brain dead Bridge problem-forwarding keeps running even after the brain isn't functioning. In a router, this doesn't happen, but it can happen in a Bridge.

Gives Bridges a bad name. Agreed to add.

802.1ac MAC Service Definition – Tony Jeffree

Virtual and Multicast Ports – Mick Seaman

Table update for 802.11 – Norm Finn

802.3 Liaison- Congestion Management- Manoj Wadekar

Congestion Management in Datacenter Networks – Manoj Wadekar

http://www.ieee802.org/1/files/public/docs2005/new-wadekar-congestion-management-framework-0505.pdf

Proposal to Improve Expedited Forwarding- Paul Congdon

http://www.ieee802.org/1/files/public/docs2005/new-congdon-improved-queuing-0505.pdf

Pragmatic proposal

Wants to raise the bar

Why not do something in this space?

He's talking about packet scheduling and metering

What do we have so far? Models of forwarding

801.1D has egress queues

802.1Q and 802.1ad flow metering

Strict priority queuing- what we have now

802.1p with reservations, rfc2814 and 2815, work done about 5 years ago

SBM Subnet Bandwidth Manager and mapping of reservations to 802
Not widely deployed. Gigabit Ethernet became so cheap, resource management wasn't needed.
IETF Intserv guaranteed service,
Mapping to our 8 priority classes
Control traffic the most important for LAN
Algorithms for control without admission control
802.1 Metering – ingress rate limiting, DA MAC, VLAN, traffic class
How measure the rate? What's the time quantum?
We don't specify
Where does metering fit in our forwarding model?
Mick- we have placed it in .1ad
MEF has a different opinion on where to meter than does .1ad
Value in per VID control
Where go from here?
Paul wants to specify behavior without specifying parameters and algorithms
Modifications to 802.1D 8.6.7 and 8.6.8
Wants manageability
Mick wants multi-level round robin deficit scheme – the best you can do
Specify outcome goal and allow for that you might not get there
Don't define conformance?
Write parameters in MIB and read them back, with some measures of achievement

A BCN scheme for Congestion Control – Davide Bergamasco
http://www.ieee802.org/1/files/public/docs2005/new-bergamasco-backward-congestion-notification-0505.pdf

Targeting short range networks, Data Center
Where flow lifetime considerably longer than network diameter
What's a flow? Eg. A TCP flow. Defined by the source. Source has to be aware of this mechanism.
Additive increase, multiplicative decrease

Closing Meeting Friday, May 14, 2005

Ballots