



K-20 Layer-2 Test Results

Job Information

Job ID	ITASK1262903
Contractor	University of Washington
Customer	wilbur-k12
Report Date	2019-11-19 16:10:56
Operator Name	enneking
Circuit ID	StarTouch:WILSPOK2-100M-051215

File Name: C:\inetpub\wwwroot\k20_performance_reports\wilbur-k12\2019-11-19_wilbur-k12_50M_fail.pdf

Comment: Finer steps up to 50 Mbps. Problem really starts around 40 or 42 Mbps. 35 is okay. However, there is unacceptable jitter throughout.

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1. Setup

1.1. IPversion Status

Port	IP Version
Port1	IPv4

1.2. Transceiver Mode

Item	Value
Transceiver Mode	10GigE LAN

2. Summary

2.1. Alarm

2.1.1. Alarms

2.1.1.1. Global

Alarm	H
Global	Fault
Log Full	No Fault

2.1.1.2. Physical

Alarm	H
LOS	No Fault
Frequency	No Fault
LOC	No Fault

Signal Analysis	Value
Pwr (dBm)	-3.5

Frequency Analysis	Value
Freq (bps)	10312518144.0
Offset (ppm)	2

2.1.1.3. WIS

No information is available

2.1.1.4. Ethernet

Alarm	H
Error	Fault
Link	No Fault
Fault	No Fault

2.1.1.5. Higher Layer Protocol

Alarm	H
Error	No Fault

2.1.1.6. Pattern

No information is available

2.1.1.7. Other

Alarm	H
SDT	No Fault

2.1.2. Logger**2.1.2.1. Logger Events**

ID	Date/Time	Data Path	Event	Duration	Count	Rate
1	2019-11-1 9 16:09:06	Test 1	Test Started			
2	2019-11-1 9 16:10:30	Optical [P1]/Ethernet Framed Layer 2/Traffic Stream [P6]/Stream[6]	Frame Loss	Pending.		
3	2019-11-1 9 16:10:30	Optical [P1]/Ethernet Framed Layer 2/Traffic Stream [P2]/Stream[2]	Frame Loss	Pending.		
4	2019-11-1 9 16:10:30	Optical [P1]/Ethernet Framed Layer 2/Traffic Stream [P5]/Stream[5]	Frame Loss	Pending.		
5	2019-11-1 9 16:10:30	Optical [P1]/Ethernet Framed Layer 2/Traffic Stream [P7]/Stream[7]	Frame Loss	Pending.		
6	2019-11-1 9 16:10:36	Optical [P1]/Ethernet Framed Layer 2/Traffic Stream/Stream[1]	Frame Loss	Pending.		
7	2019-11-1 9 16:12:43	Test 1	Test Stopped			

2.2. Test**2.2.1. Test Status**

Item	Value
Start Time:	2019-11-19 16:09:06
Port 1 Link	Up

2.2.2. Test Configuration

Item	Value
Application Type	EtherSAM (Y.1564)
Test Name	BV10.EtS
Test Description	

2.2.3. Test Preferences

No information is available

2.2.4. Clock Configuration

Item	Value
Clock Mode	Internal

2.2.5. Alarm Analysis

Alarm	H	Seconds
LOC	No Fault	0

2.2.6. Timer Configuration

Item	Value
Start Time Status	Disabled
Start Time	2015-07-20 12:19:45
Stop Time Status	Disabled
Stop Time	2015-07-20 12:19:45
Duration Status	Disabled
Duration	15 minutes
On/Off State	Disabled

3. Optical [P1]/Port

3.1. TX

3.1.1. Signal Analysis

Item	Value
Output Presence	Active

3.1.2. Alarm Generation

Item	Value
Type	LOS
On/Off	Disabled

3.1.3. Frequency

Item	Value
Frequency Offset (ppm)	0
On/Off	Disabled
Actual Frequency (bps)	10312499904
Nominal Frequency (bps)	10312500000

3.2. RX

3.2.1. Signal Analysis

Item	Value
Range (dBm)	-14.4 to 0.5
Power (dBm)	-3.5

3.2.2. Alarm Analysis

Alarm	H	Seconds
LOS	No Fault	0
Frequency	No Fault	0

3.2.3. Frequency Analysis

Item	Value
Frequency (bps)	10312518144
Frequency Offset (bps)	18144
Max. Negative Offset (bps)	0
Max. Positive Offset (bps)	18272

3.3. Interface**3.3.1. Configuration**

Item	Value
Flow Control	None

3.3.2. Status

Item	Value
Link	Up

3.4. Network**3.4.1. MAC Configuration**

Item	Value
MAC Address	00:03:01:08:9D:91

3.4.1.1. VLAN

Item	Value
Enable VLAN	Disabled

3.4.2. IP Configuration

Item	Value
IP Address	10.10.114.173
Subnet Mask	255.255.255.0
Enable DHCP	Disabled
Enable Default Gateway	Disabled
Default Gateway	N/A

3.4.3. Frame Format

Item	Value
Format	Ethernet II
OUI	N/A

4. EtherSAM Configuration

4.1. Overview

4.1.1. EtherSAM Configuration Overview

Service	Profile	Enable	Service Name	Frame Size	CIR (Mbps)	Max Jitter (ms)	Max Latency (ms)	Frame Loss (%)	CBS (Bytes)
1	Data	Enabled	100Mb CIR	Random	50.0	2	28	0.01	N/A
2	Data	Disabled	Service 2	74	5000.0	2	15	0.1	N/A
3	Data	Disabled	Service 3	74	5000.0	2	15	0.1	N/A
4	Data	Disabled	Service 4	74	5000.0	2	15	0.1	N/A
5	Data	Disabled	Service 5	74	5000.0	2	15	0.1	N/A
6	Data	Disabled	Service 6	74	5000.0	2	15	0.1	N/A
7	Data	Disabled	Service 7	74	5000.0	2	15	0.1	N/A
8	Data	Disabled	Service 8	74	5000.0	2	15	0.1	N/A
9	Data	Disabled	Service 9	74	5000.0	2	15	0.1	N/A
10	Data	Disabled	Service 10	74	5000.0	2	15	0.1	N/A

4.1.2. Global Verdict

4.1.3. Enable Sub-Tests

Item	Value
Service Configuration Test	Enabled
Ramp Test	Enabled
Burst Test	Disabled
Service Performance Test	Enabled

4.1.4. Sub-Tests Duration

Item	Duration
Service Configuration Test	00d:00:01:10
Service Performance Test	00d:00:02:00

4.1.5. Total TX Rate (%)

Item	Value
Available	99.5
Committed	0.5

4.2. Services**4.2.1. 100Mb CIR****4.2.1.1. SLA Parameters**

Item	Value
CIR (Mbit/s)	50.0
CIR+EIR (Mbit/s)	N/A
Traffic Policing (Mbit/s)	N/A
CBS (Bytes)	N/A
EBS (Bytes)	N/A
Burst Max Rate (Mbit/s)	N/A
Max Jitter (ms)	2
Max Latency (ms)	28
Frame Loss (%)	0.01

4.2.1.2. Frame Configuration**4.2.1.2.1. Service Profile**

Item	Value
Profile Type	Data

4.2.1.2.2. Frame Configuration

Item	Value	Size
Data Link	Ethernet II	Random
Network	IPv4	Random
Transport	UDP	Random

4.2.1.3. MAC**4.2.1.3.1. Source**

Item	Value
MAC Address	00:03:01:08:9D:91

4.2.1.3.2. Destination

Item	Value
MAC Address	00:03:01:10:2D:2E
Resolve MAC Address	Enabled
Status	Resolved

4.2.1.3.2.1. VLAN

Item	Value
Enable VLAN	Disabled

4.2.1.3.3. Frame Format

Item	Value
Format	Ethernet II
OUI	N/A
User Defined OUI	N/A
EtherType	0800

4.2.1.4. MPLS Configuration

Item	Value
Label #2	N/A
COS / EXP #2	N/A
TTL #2	N/A

4.2.1.5. IP**4.2.1.5.1. Source**

Item	Value
IP Address	10.112.0.01
Subnet Mask	255.255.255.0

4.2.1.5.1.1. IP Multiplier

Item	Value
Enable	Disabled
Range	N/A

4.2.1.5.2. Destination

Item	Value
IP Address	010.112.0.19
TTL	128
IP TOS/DS	00

4.2.1.5.2.1. Advanced TOS/DS

Item	Value
Enable Differentiated Services	Disabled

4.2.1.5.2.1.1. DS

No information is available

4.2.1.5.2.1.2. TOS

Item	Value
Precedence	000 (Routine)
Delay	Normal
Throughput	Normal
Reliability	Normal
Monetary Cost	Normal
Reserved Bit	0

4.2.1.5.2.2. Default Gateway

Item	Value
Enable	Disabled
Default Gateway	N/A

4.2.1.6. UDP**4.2.1.6.1. Source**

Item	Value
Port	49184

4.2.1.6.2. Destination

Item	Value
Port	7

4.2.1.7. Payload

No information is available

4.3. Ramp

Step List	Value (% of CIR)
Step Time (s)	10
Ramp Duration (s)	80

Step1 (%)	25.0
Step2 (%)	50.0
Step3 (%)	60.0
Step4 (%)	70.0
Step5 (%)	80.0
Step6 (%)	90.0
Step7	CIR
Step8	Traffic Policing

4.4. Burst

Item	Value
Number of Burst Sequence	2
Refill Delay Ratio (%)	50
Burst/IR Frame Ratio (%)	90

4.4.1. Burst Test

Service No.	CBS Test Time (s)	EBS Test Time (s)	Total Burst Test Time (s)
1	N/A	N/A	--
2	N/A	N/A	--
3	N/A	N/A	--
4	N/A	N/A	--
5	N/A	N/A	--
6	N/A	N/A	--
7	N/A	N/A	--
8	N/A	N/A	--
9	N/A	N/A	--
10	N/A	N/A	--
Total	0	0	0

5. EtherSAM Results

5.1. Overview

5.1.1. Global Progress

Item	Value
Test Status	Completed
Verdict	FAIL

5.1.2. Configuration Test Overview

5.1.2.1. 100Mb CIR

Item	Value	Verdict
Frame Loss (%)	17.228	FAIL
Max Jitter (ms)	5.903	FAIL
Max Latency (ms)	83.942	FAIL
Max RX Rate (Mbit/s)	42.031	PASS

5.1.3. Performance Test Overview

5.1.3.1. 100Mb CIR

Item	Value	Verdict
Average RX Rate (Mbps)	42.071	FAIL
Frame Loss (%)	16.906	FAIL
Max Jitter (ms)	6.652	FAIL
Max Latency (ms)	90.869	FAIL
Verdict	FAIL	FAIL

5.2. Service Configuration Test

5.2.1. 100Mb CIR

5.2.1.1. Service Verdict

Item	Verdict
Service Verdict	FAIL

5.2.1.2. Max RX Rate

Item	Value	Verdict
Max RX Rate (Mbit/s)	42.031	PASS

5.2.1.3. Step 1

Item	Value	Verdict
Percentage of CIR	25.0	Not Applicable
Frame Loss (%)	0.000	PASS
Max Jitter (ms)	3.190	FAIL
Max Latency (ms)	13.267	PASS
Verdict	FAIL	FAIL
Average RX Rate (Mbps)	12.499	N/A

5.2.1.4. Step 2

Item	Value	Verdict
Percentage of CIR	50.0	Not Applicable
Frame Loss (%)	0.018	FAIL
Max Jitter (ms)	4.590	FAIL
Max Latency (ms)	20.357	PASS
Verdict	FAIL	FAIL
Average RX Rate (Mbps)	24.994	N/A

5.2.1.5. Step 3

Item	Value	Verdict
Percentage of CIR	60.0	Not Applicable
Frame Loss (%)	0.000	PASS
Max Jitter (ms)	4.383	FAIL
Max Latency (ms)	15.360	PASS
Verdict	FAIL	FAIL
Average RX Rate (Mbps)	30.009	N/A

5.2.1.6. Step 4

Item	Value	Verdict
Percentage of CIR	70.0	Not Applicable
Frame Loss (%)	0.000	PASS
Max Jitter (ms)	4.560	FAIL
Max Latency (ms)	15.668	PASS
Verdict	FAIL	FAIL
Average RX Rate (Mbps)	34.998	N/A

5.2.1.7. Step 5

Item	Value	Verdict
Percentage of CIR	80.0	Not Applicable
Frame Loss (%)	0.002	PASS
Max Jitter (ms)	5.587	FAIL
Max Latency (ms)	19.942	PASS
Verdict	FAIL	FAIL
Average RX Rate (Mbps)	39.991	N/A

5.2.1.8. Step 6

Item	Value	Verdict
Percentage of CIR	90.0	Not Applicable
Frame Loss (%)	7.302	FAIL
Max Jitter (ms)	5.903	FAIL
Max Latency (ms)	83.942	FAIL
Verdict	FAIL	FAIL
Average RX Rate (Mbps)	41.666	N/A

5.2.1.9. Step CIR

Item	Value	Verdict
Frame Loss (%)	17.228	FAIL
Max Jitter (ms)	4.513	FAIL
Max Latency (ms)	83.895	FAIL
Verdict	FAIL	FAIL
Average RX Rate (Mbps)	42.031	N/A

5.3. Service Performance Test**5.3.1. Port 1****5.3.1.1. 100Mb CIR****5.3.1.1.1. Sequence Tracking**

Error	H	Seconds	Count	Rate	Percentage
Out-Of-Sequence	No Fault	0	0	0.00E00	0.000
Frame Loss	Fault	117	152921	1.69E-01	16.906

5.3.1.1.2. RX Rate

Item	Value
Minimum (%)	0.414
Maximum (%)	0.423
Current (%)	0.421
Average (%)	0.42
RX Frame Count	767197

5.3.1.1.3. Round Trip Latency

Item	Value
Minimum (ms)	8.768
Maximum (ms)	90.869
Current (ms)	77.314
Average (ms)	78.245

5.3.1.1.4. Jitter

Item	Value
Minimum (ms)	< 0.015
Maximum (ms)	6.652
Current (ms)	0.060
Average (ms)	0.177
Number of Samples	751608
Estimate (ms)	0.192

6. Optical [P1]/Ethernet Framed Layer 2/Traffic Analyzer

6.1. Eth. RX

6.1.1. Configuration

Item	Value
Oversize Monitoring	Disabled

6.1.2. Alarm Analysis

Alarm	H	Seconds
Link Down	No Fault	0
Local Fault	No Fault	0
Remote Fault	No Fault	0

6.1.3. Error Analysis

Error	H	Seconds	Count	Rate
Block	No Fault	0	0	0.00E00
FCS	No Fault	0	0	0.00E00
Jabber/Giant	No Fault	0	0	0.00E00
Oversize	N/A	N/A	N/A	N/A
Runt	No Fault	0	0	0.00E00
Undersize	No Fault	0	0	0.00E00
Total Error Count			0	

6.2. Eth. Stats

6.2.1. Total Frame Counts

	RX Count	TX Count
Total Count	1114799	1290452

6.2.2. Valid Frame Counts

Frames	TX Count	RX Count
Multicast	0	116
Broadcast	5	0
Unicast	1290447	1114683
N-Unicast	5	116
Total	1290452	1114799

6.2.3. Frame Size

Frame Size	Count	Total (%)
< 64	0	0.000
64	807	0.072
65 - 127	47023	4.218
128 - 255	95580	8.574
256 - 511	191588	17.186
512 - 1023	388856	34.881
1024 - 1518	390945	35.069
> 1518	0	0.000

6.2.4. Throughput

Item	Value
Bandwidth (Mbps)	0.000544
Utilization (%)	0.00000704
Frame Rate (fps)	1

6.3. Higher Layers**6.3.1. Higher Layer Protocol**

Error	H	Seconds	Count	Rate
IP Header Checksum	No Fault	0	0	0.00E00
UDP Checksum	No Fault	0	0	0.00E00
TCP Checksum	No Fault	0	0	--

7. Clock Synchronization

7.1. RX

7.1.1. Configuration

Item	Value
Interface Type	None
Termination Mode	N/A
Line Coding	N/A
Framing	N/A

7.1.2. Alarm Analysis

Alarm	State
LOS	N/A
AIS	N/A
LOF	N/A
Frequency	N/A

7.1.3. Frequency Analysis

Item	Value
Frequency (bps)	--
Frequency Offset (ppm)	--

7.2. Backplane

7.2.1. Configuration

Item	Value
Clock Mode	Internal
Enable	Disabled

7.2.2. Alarm Analysis

Alarm	State
LOC	No Fault

7.3. Clock Out

7.3.1. Configuration

Item	Value
Clock Out Divider	16

8. Software Options

8.1. Available Options

Category	Name	Description	Status
Feature	SK-ADV-FILTERS	Advanced Traffic Filtering	Disabled
Feature	SK-DATA-CAPTURE	Ethernet Frame Capture for Advanced Troubleshooting	Disabled
Feature	SK-ETHERSAM	Ethernet Service Activation Methodology Application Type	Enabled
Feature	SK-IPV6	Internet Protocol Version 6 (IPv6)	Disabled
Feature	SK-MPLS	Multi Protocol Label Switching	Disabled
Feature	SK-PBB-TE	Provider Backbone Bridge with Traffic Engineering	Disabled
Feature	SK-TRAFFIC-SCAN	Traffic Scan Troubleshooting Feature	Disabled
Network	SK-LAN	Local Area Network	Enabled
Network	SK-WAN	Wide Area Network	Enabled

9. Ping [P1]/Ping

9.1. Configuration

9.1.1. Ping

9.1.1.1. Setup

Item	Value
IP Address	10.10.114.172
Run	Disabled

9.1.1.1.1. Configuration

Item	Value
Timeout (ms)	4000
Delay (ms)	1000
Data Size (Bytes)	32
Time To Live (TTL)	128
Attempts	4
Continuous	Disabled
Type Of Service (TOS)	00

9.1.1.2. Results

#	Status	Replied From	Bytes	Time (ms)	TTL
1	Successful	10.112.0.19	32	9	63
2	Successful	10.112.0.19	32	9	63
3	Successful	10.112.0.19	32	8	63
4	Successful	10.112.0.19	32	8	63

9.1.1.2.1. Statistics

Item	Value
TX (packets)	4
RX (packets)	4
Lost (%)	0
Minimum Round Trip Time (ms)	8
Maximum Round Trip Time (ms)	9
Average Round Trip Time (ms)	8

9.1.2. TraceRoute**9.1.2.1. Setup**

Item	Value
IP Address	10.10.114.172
Run	Disabled

9.1.2.1.1. Configuration

Item	Value
Timeout (ms)	4000
Max. Hop Count	128

9.1.2.2. Results

No information is available

9.1.2.2.1. Statistics

No information is available