

ZyXEL XS1920-12 V4.20(AASR.1)

Release Note/Manual Supplement

Date: Apr. 15, 2015

This document describes the features in the XS1920-12 product for its 4.20(AASR.1) release.

Support Platforms:

ZyXEL XS1920-12 V4.20(AASR.1) supports models: ZyXEL XS1920-12.

Version:

OS Version: V4.20(AASR.1) | 04/15/2015 13:50:40

Bootbase Version: V2.00 | 07/29/2014 14:53:11

Default Bootbase Setting:

ZyNOS Version	V4.20(AASR.1) 04/15/2015 13:50:40
Bootbase Version	V2.00 07/29/2014 14:53:11
Serial Number	xxxxxxxxxxxxxxxx
Vendor Name	ZyXEL
Product Model	XS1920-12
ZyNOS Code Model	XS1920
ZyNOS ROM address	b7c00000
System Type	14
First MAC Address	0019CB000001
Last MAC Address	0019CB00000D
MAC Address Quantity	13
Default Country Code	FF
Boot Module Debug Flag	01
CPLD Version	N/A
RomFile Version	46
RomFile Checksum	1848
ZyNOS Checksum	3d44
SNMP MIB level & OID	060102030405060708091011121314151617181920
Main Feature Bits	C0
Other Feature Bits	
02 4E 00 00 00 00 00 00-00 00 00 00 00 00 00	
00 00 00 00 00 00 00 00-00 13 00 00 00 00	

Main Features:

1. 10 Auto MDI/MDI-X 100Base-TX/1000Base-T/10GBase-T
2. 2 dual personality XE port (1000Base-X SFP+ 10G SFP+ 10GBase-T/1000Base-T, Auto MDI/MDI-X) interfaces for uplink (Support DDMI)
3. PWM Fan module (3 fans)
4. Support 1000M/10G mini GBIC interface
5. LED indications for link status (Locator LED)
6. Fan Speed Monitoring
7. 16K layer 2 MAC addresses table

8. 12K jumbo frame
9. 512 IP address table
10. 64 routing path
11. 1K multicasting group
12. 2MB packet buffer.
13. IEEE 802.1w Rapid Spanning Tree Protocol, RSTP
14. IEEE 802.1s Multiple Spanning Tree Protocol, MSTP
15. MRSTP
16. 802.1p with 8 CoS per port. SPQ, WRR, and WFQ, SPQ/WFQ combination capable
17. Rule-based bandwidth control (ingress traffic metering/dropping 64Kb stepping)
18. Port-based egress traffic shaping
19. IEEE 802.3x flow control.
20. DSCP to 802.1p priority mapping
21. Port-based VLAN
22. Protocol-based VLAN [exclusive with Guest VLAN]
23. IP subnet based VLAN [exclusive with Guest VLAN]
24. IEEE 802.1Q tag-based VLAN
25. IEEE 802.1Q Static VLANs
26. IEEE 802.1Q dynamic VLANs
27. GVRP for dynamic registration
28. IEEE 802.3ad LACP LACP algorithm of Source-MAC/Source-IP/Destination-MAC/Destination-IP/Source-Destination-MAC/Source-Destination-IP (per system support choose 4 hash algorithm)
29. Port mirroring (mirror for CPU port)
30. Support rate limiting, minimum step 64K both ingress and egress
31. Broadcast Storm Control 1pps stepping (Broadcast, Multicast, DLF storm control)
32. Layer 2 MAC filtering
33. Layer 3 IP filtering
34. Layer 4 TCP/UDP socket filtering
35. Support rate limit per IP/TCP/UDP per port
36. DHCP client
37. DHCP relay/DHCP relay per VLAN
38. DHCP option82
39. DHCP option82 profile per port per VLAN
40. IGMP snooping per VLAN (IGMPv1/v2/v3 up to 16 VLAN user configurable), up to 1K groups
41. Static multicast forwarding
42. 802.1x port authentication
43. Port Security
44. Static MAC filtering/forwarding
45. Multiple RADIUS servers
46. Multiple TACACS+ servers
47. AAA by RADIUS / TACACS+ (Backup round robin mode TACACS+ server)
48. 802.1x VLAN and bandwidth assignment by RADIUS
49. MAC Freeze
50. DHCP snooping
51. ARP Inspection
52. Static IP/MAC binding
53. Policy-based security filtering
54. IEEE 802.1Q VLAN port isolation
55. IP Source Guard
56. Daylight saving time support
57. Link aggregation algorithm of source/destination IP address
58. Layer 2 protocol tunneling
59. Guest VLAN (port based/MAC based)[5 MAC Per port, exclusive with protocol-based & IP subnet-based VLAN]
60. ACL packet filtering (IPv4/IPv6)
61. PPPoE-IA (with option82)
62. CPU protection (ARP/IGMP/BPDU, inactive port/inactive reason/rate-limitation)
63. CPU protection, Error disable over rate limit with lower priority
64. Recovery mechanism for error-disabled port/reason

65. IEEE 802.1D transparent bridging
66. Loop guard
67. Dual configuration files
68. Dual RAS images
69. VLAN trunking
70. L2 Multicast
71. IGMP snooping (v1,v2,v3)
72. IGMP snooping fast leave
73. IGMP snooping statistics
74. IGMP snooping immediate leave
75. IGMP throttling
76. IGMP proxy mode & snooping mode selection
77. Configurable IGMP snooping timer and priority
78. IGMP snooping group client (add client up time field for display)
79. SNMP v1, v2c, v3
80. SNMP trap group
81. SNMP interface related trap can be enable/disable by port
82. ICMP echo/echo reply
83. Syslog
84. RFC 2464 IPv6 over Ethernet
85. RFC 4291 IPv6 addressing architecture
86. RFC 4213 Dual stack
87. RFC 4884 ICMPv6
88. RFC 1981 Path MTU
89. RFC 5905 Minimum Path MTU size of 1280
90. RFC 4861 Neighbor Discovery
91. Encapsulation for minimum PMTU size of 1500
92. DHCPv6 client and relay
93. NDP: host
94. IPv6 address stateless auto-configuration: host and router
95. ZyXEL clustering management (iStacking)
96. Management through SNMP or Web management
97. Firmware upgrade by WEB / FTP
98. Configuration saving and retrieving by WEB / FTP
99. Configure Clone
100. Daylight Saving
101. NTP
102. Service Access Control Timeout
103. IEEE 802.1ab Link Layer Discovery Protocol, LLDP
104. IEEE 802.1ab LLDP-MED
105. User access right
106. RFC 1757 RMON group 1,2,3,9 MIB
107. RFC 1066 TCP/IP-based MIB
108. RFC 1213, 1157 SNMPv2c/v3 MIB
109. RFC 1493 bridge MIB
110. RFC 1643 Ethernet MIB
111. RFC 2011,2012,2013 SNMP MIB
112. RFC 2233 SMI MIB
113. RFC 2358 Ethernet-like MIB
114. RFC 2674 bridge MIB extension
115. RFC 2819, 2925 Remote management MIB
116. RFC 4293 MIB for IP
117. RFC 4292 IP forwarding table MIB
118. RFC 4022 MIB for TCP
119. RFC 4113 MIB for UDP
120. ZyXEL ESBU common MIB
121. Standard Ping MIB, IP address format 192 168 1 1 -> c0 a8 01 01
122. Green Ethernet (Port 11 、 12 fiber port not support)
123. Cable diagnostics
124. Self adjust fan speed control

125. MAC Quantity in MRD
126. MAC aging time
127. Voice VLAN
128. Private VLAN
129. MLD snooping proxy
130. Enable telnet and ssh by default
131. MAC-based VLAN
132. ARP Freeze
133. Reload Factory Default
134. MAC Pinning
135. Dual Image
136. IP Port Move for VM
137. ACL 2.0
138. Support multiple DHCP client
139. support ZON (ZyXEL One Network)
140. ZON Neighbor Management

Enhanced Features:

1. MAC based VLAN
2. Voice VLAN
3. Bootbase changed to V2.0
 - i. Rom size change.
4. LLDP enabled by default
5. Voltage Monitor
6. ESBM MIB update: calculating average of CPU loading
7. remove CIR (bandwidth control)
8. Auto Port Speed. (default Auto-10G)
9. remove Green Ethernet short-reach
10. remove intrusion lock
11. remove password encryption
12. remove port speed 100H capability
13. Add the new CLI command to re-initial the certification.

Bug Fix:

1. **[LACP]** When MSTP and LACP are enabled at the same port within ring topology, after all links of the same Trunk go down, the port status will become improperly.
2. **[Management]** Fix the incompatibility issue with Microsoft Windows OS 8.1 LLDP that will cause the switch loss of management.
3. **[Management]** Fix the incompatibility issue with some IP Phones that will cause the switch loss of management.
4. **[ZON]** Switch is DHCP Client. When using ZON to discover the Switch, ZON cannot display the default gateway IP address.
5. **[IPv6]** In IPv6 routing environment, sometime the routing table will inconsistent to cause CPU high issue.
6. **[HTTPS]** Fix the HTTPS session not timeout issue.

Known Issue:

1. RX multicast/broadcast/unicast could not count packet number without ether-type. (only 64 bytes can count), but be counted into RFLR(Receive length out of range frame counter).
2. Alignnet packets count at FCS errors.
3. Packet size over 1518 without ether-type will counts as Jabber
4. Tx Packet size over 9216 will be counted as Tx Oversize packet (TOVR)
5. A filtering rule with discard source action will always filter packets regardless of source MAC or destination MAC.
6. Port movement of IPv6 address is not supported currently.

7. Configuring port isolation with remote port mirroring is not recommend
8. When spanning tree protocol is enabled and port state change from Forwarding state to Discarding state, some MAC address may be re-learned in discarding port.
9. Auto power down only support for 100/1000Base-T

Limitation of Settings:

1.	802.1Q Static VLANs	1K
2.	Static MAC forwarding entry	256
3.	MAC filtering entry	256
4.	Cluster member	24
5.	IP routing domain	512
6.	IGMP Filtering entry	256
7.	IGMP MVR entry	256
8.	Protocol based VLAN entries per port	7
9.	Port-security max address-limit number	16K
10.	Syslog server entry	4
11.	IP source guard entry	512
12.	IP subnet based VLAN entry	16
13.	MVR VLAN entry	5
14.	MAC table	16K
15.	Routing table	512
16.	DHCP snooping binding table	16K
17.	Multicast group	1k
18.	ACL	384
19.	DHCP option 82 profile	130
20.	static arp entry	256
21.	Static route max entry	64
22.	DHCP Entry	16
23.	Trunk groups	6
24.	Per trunk group port number	8
25.	MSTP instance	0-16
26.	MAC-based VLAN	512
27.	Voice VLAN OUI entry	10

Firmware Upgrade:

The XS1920-12 uses FTP to upgrade firmware in run-time through its built-in FTP server. You can use any FTP client (for example, [ftp.exe](#) in Windows) to upgrade XS1920-12. The upgrade procedure is as follows:

Upgrade XS1920-12 Firmware:

```
C:\> ftp <XS1920-12 IP address>
User : admin
Password: 1234
230 Logged in
ftp> put 420AASR0C0.bin ras-0
ftp> bye
```

Where

- User name: the management user name, admin by default.
- Password: the management password, 1234 by default.
- 420AASR0C0.bin: the name of firmware file you want to upgrade.

- ras-0: the internal firmware name in XS1920-12 (store at first flash).
- ras-1: the internal firmware name in XS1920-12 (store at second flash).

Configuration Upgrade:

The XS1920-12 uses FTP to upgrade configuration in run-time through its built-in FTP server. You can use any FTP client (for example, ftp.exe in Windows) to upgrade XS1920-12. The upgrade procedure is as follows:

Upgrade XS1920-12 Configuration:

```
C:\> ftp <XS1920-12 IP address>
User name: admin
Password: 1234
230 Logged in
ftp> put 420AASR0C0.rom rom-0
ftp> bye
```

Where

- User name: the management user name, admin by default.
- Password: the management password, 1234 by default.
- 420AASR0C0.rom: the name of configuration file you want to upgrade.
- rom-0: the internal configuration name in XS1920-12.

ZyXEL XS1920-12 V4.20(AASR.0)

Release Note/Manual Supplement

Date: Jan. 14, 2015

This document describes the features in the XS1920-12 product for its 4.20(AASR.0) release.

Support Platforms:

ZyXEL XS1920-12 V4.20(AASR.0) supports models: ZyXEL XS1920-12.

Version:

OS Version: V4.20(AASR.0) | 01/14/2015 16:12:11

Bootbase Version: V2.00 | 07/29/2014 14:53:11

Default Bootbase Setting:

ZyNOS Version	V4.20(AASR.0) 01/14/2015 16:12:11
Bootbase Version	V2.00 07/29/2014 14:53:11
Serial Number	xxxxxxxxxxxxxxxx
Vendor Name	ZyXEL
Product Model	XS1920-12
ZyNOS Code Model	XS1920
ZyNOS ROM address	b7c00000
System Type	14
First MAC Address	0019CB000001
Last MAC Address	0019CB00000D
MAC Address Quantity	13
Default Country Code	FF
Boot Module Debug Flag	01
CPLD Version	N/A
RomFile Version	46
RomFile Checksum	1848
ZyNOS Checksum	3a11
SNMP MIB level & OID	060102030405060708091011121314151617181920
Main Feature Bits	C0
Other Feature Bits	
02 4E 00 00 00 00 00 00-00 00 00 00 00 00 00 00	
00 00 00 00 00 00 00 00-00 13 00 00 00 00	

Main Features:

1. 10 Auto MDI/MDI-X 100Base-TX/1000Base-T/10GBase-T
2. 2 dual personality XE port (1000Base-X SFP+ 10G SFP+ 10GBase-T/1000Base-T, Auto MDI/MDI-X) interfaces for uplink (Support DDMI)
3. PWM Fan module (3 fans)
4. Support 1000M/10G mini GBIC interface
5. LED indications for link status (Locator LED)
6. Fan Speed Monitoring
7. 16K layer 2 MAC addresses table
8. 12K jumbo frame

9. 512 IP address table
10. 64 routing path
11. 1K multicasting group
12. 2MB packet buffer.
13. IEEE 802.1w Rapid Spanning Tree Protocol, RSTP
14. IEEE 802.1s Multiple Spanning Tree Protocol, MSTP
15. MRSTP
16. 802.1p with 8 CoS per port. SPQ, WRR, and WFQ, SPQ/WFQ combination capable
17. Rule-based bandwidth control (ingress traffic metering/dropping 64Kb stepping)
18. Port-based egress traffic shaping
19. IEEE 802.3x flow control.
20. DSCP to 802.1p priority mapping
21. Port-based VLAN
22. Protocol-based VLAN [exclusive with Guest VLAN]
23. IP subnet based VLAN [exclusive with Guest VLAN]
24. IEEE 802.1Q tag-based VLAN
25. IEEE 802.1Q Static VLANs
26. IEEE 802.1Q dynamic VLANs
27. GVRP for dynamic registration
28. IEEE 802.3ad LACP LACP algorithm of Source-MAC/Source-IP/Destination-MAC/Destination-IP/Source-Destination-MAC/Source-Destination-IP (per system support choose 4 hash algorithm)
29. Port mirroring (mirror for CPU port)
30. Support rate limiting, minimum step 64K both ingress and egress
31. Broadcast Storm Control 1pps stepping (Broadcast, Multicast, DLF storm control)
32. Layer 2 MAC filtering
33. Layer 3 IP filtering
34. Layer 4 TCP/UDP socket filtering
35. Support rate limit per IP/TCP/UDP per port
36. DHCP client
37. DHCP relay/DHCP relay per VLAN
38. DHCP option82
39. DHCP option82 profile per port per VLAN
40. IGMP snooping per VLAN (IGMPv1/v2/v3 up to 16 VLAN user configurable), up to 1K groups
41. Static multicast forwarding
42. 802.1x port authentication
43. Port Security
44. Static MAC filtering/forwarding
45. Multiple RADIUS servers
46. Multiple TACACS+ servers
47. AAA by RADIUS / TACACS+ (Backup round robin mode TACACS+ server)
48. 802.1x VLAN and bandwidth assignment by RADIUS
49. MAC Freeze
50. DHCP snooping
51. ARP Inspection
52. Static IP/MAC binding
53. Policy-based security filtering
54. IEEE 802.1Q VLAN port isolation
55. IP Source Guard
56. Daylight saving time support
57. Link aggregation algorithm of source/destination IP address
58. Layer 2 protocol tunneling
59. Guest VLAN (port based/MAC based)[5 MAC Per port, exclusive with protocol-based & IP subnet-based VLAN]
60. ACL packet filtering (IPv4/IPv6)
61. PPPoE-IA (with option82)
62. CPU protection (ARP/IGMP/BPDU, inactive port/inactive reason/rate-limitation)
63. CPU protection, Error disable over rate limit with lower priority
64. Recovery mechanism for error-disabled port/reason
65. IEEE 802.1D transparent bridging

66. Loop guard
67. Dual configuration files
68. Dual RAS images
69. VLAN trunking
70. L2 Multicast
71. IGMP snooping (v1,v2,v3)
72. IGMP snooping fast leave
73. IGMP snooping statistics
74. IGMP snooping immediate leave
75. IGMP throttling
76. IGMP proxy mode & snooping mode selection
77. Configurable IGMP snooping timer and priority
78. IGMP snooping group client (add client up time field for display)
79. SNMP v1, v2c, v3
80. SNMP trap group
81. SNMP interface related trap can be enable/disable by port
82. ICMP echo/echo reply
83. Syslog
84. RFC 2464 IPv6 over Ethernet
85. RFC 4291 IPv6 addressing architecture
86. RFC 4213 Dual stack
87. RFC 4884 ICMPv6
88. RFC 1981 Path MTU
89. RFC 5905 Minimum Path MTU size of 1280
90. RFC 4861 Neighbor Discovery
91. Encapsulation for minimum PMTU size of 1500
92. DHCPv6 client and relay
93. NDP: host
94. IPv6 address stateless auto-configuration: host and router
95. ZyXEL clustering management (iStacking)
96. Management through SNMP or Web management
97. Firmware upgrade by WEB / FTP
98. Configuration saving and retrieving by WEB / FTP
99. Configure Clone
100. Daylight Saving
101. NTP
102. Service Access Control Timeout
103. IEEE 802.1ab Link Layer Discovery Protocol, LLDP
104. IEEE 802.1ab LLDP-MED
105. User access right
106. RFC 1757 RMON group 1,2,3,9 MIB
107. RFC 1066 TCP/IP-based MIB
108. RFC 1213, 1157 SNMPv2c/v3 MIB
109. RFC 1493 bridge MIB
110. RFC 1643 Ethernet MIB
111. RFC 2011,2012,2013 SNMP MIB
112. RFC 2233 SMI MIB
113. RFC 2358 Ethernet-like MIB
114. RFC 2674 bridge MIB extension
115. RFC 2819, 2925 Remote management MIB
116. RFC 4293 MIB for IP
117. RFC 4292 IP forwarding table MIB
118. RFC 4022 MIB for TCP
119. RFC 4113 MIB for UDP
120. ZyXEL ESBUS common MIB
121. Standard Ping MIB, IP address format 192 168 1 1 -> c0 a8 01 01
122. Green Ethernet (Port 11 、 12 fiber port not support)
123. Cable diagnostics
124. Self adjust fan speed control
125. MAC Quantity in MRD

126. MAC aging time
127. Voice VLAN
128. Private VLAN
129. MLD snooping proxy
130. Enable telnet and ssh by default
131. MAC-based VLAN
132. ARP Freeze
133. Reload Factory Default
134. MAC Pinning
135. Dual Image
136. IP Port Move for VM
137. ACL 2.0
138. Support multiple DHCP client
139. support ZON (ZyXEL One Network)
140. ZON Neighbor Management

Enhanced Features:

1. MAC based VLAN
2. Voice VLAN
3. Bootbase changed to V2.0
 - i. Rom size change.
4. LLDP enabled by default
5. Voltage Monitor
6. ESRU MIB update: calculating average of CPU loading
7. remove CIR (bandwidth control)
8. Auto Port Speed. (default Auto-10G)
9. remove Green Ethernet short-reach
10. remove intrusion lock
11. remove password encryption
12. remove port speed 100H capability

Bug Fix:

Known Issue:

1. RX multicast/broadcast/unicast could not count packet number without ether-type. (only 64 bytes can count), but be counted into RFLR(Receive length out of range frame counter).
2. Aligned packets count at FCS errors.
3. Packet size over 1518 without ether-type will counts as Jabber
4. Tx Packet size over 9216 will be counted as Tx Oversize packet (TOVR)
5. A filtering rule with discard source action will always filter packets regardless of source MAC or destination MAC.
6. Port movement of IPv6 address is not supported currently.
7. Configuring port isolation with remote port mirroring is not recommend
8. When spanning tree protocol is enabled and port state change from Forwarding state to Discarding state, some MAC address may be re-learned in discarding port.
9. Auto power down only support for 100/1000Base-T
10. When MSTP and LACP are enabled at the same port within ring topology, after all links of the same Trunk go down, the port status will become improperly.

Limitation of Settings:

1.	802.1Q Static VLANs	1K
2.	Static MAC forwarding entry	256
3.	MAC filtering entry	256
4.	Cluster member	24
5.	IP routing domain	512
6.	IGMP Filtering entry	256
7.	IGMP MVR entry	256
8.	Protocol based VLAN entries per port	7
9.	Port-security max address-limit number	16K
10.	Syslog server entry	4
11.	IP source guard entry	512
12.	IP subnet based VLAN entry	16
13.	MVR VLAN entry	5
14.	MAC table	16K
15.	Routing table	512
16.	DHCP snooping binding table	16K
17.	Multicast group	1k
18.	ACL	384
19.	DHCP option 82 profile	130
20.	static arp entry	256
21.	Static route max entry	64
22.	DHCP Entry	16
23.	Trunk groups	6
24.	Per trunk group port number	8
25.	MSTP instance	0-16
26.	MAC-based VLAN	512
27.	Voice VLAN OUI entry	10

Firmware Upgrade:

The XS1920-12 uses FTP to upgrade firmware in run-time through its built-in FTP server. You can use any FTP client (for example, [ftp.exe](#) in Windows) to upgrade XS1920-12. The upgrade procedure is as follows:

Upgrade XS1920-12 Firmware:

```
C:\> ftp <XS1920-12 IP address>
User : admin
Password: 1234
230 Logged in
ftp> put 420AASR0C0.bin ras-0
ftp> bye
```

Where

- User name: the management user name, admin by default.
- Password: the management password, 1234 by default.
- 420AASR0C0.bin: the name of firmware file you want to upgrade.
- ras-0: the internal firmware name in XS1920-12 (store at first flash).
- ras-1: the internal firmware name in XS1920-12 (store at second flash).

Configuration Upgrade:

The XS1920-12 uses FTP to upgrade configuration in run-time through its built-in FTP server. You can use any FTP client (for example, ftp.exe in Windows) to upgrade XS1920-12. The upgrade procedure is as follows:

Upgrade XS1920-12 Configuration:

```
C:\> ftp <XS1920-12 IP address>
User name: admin
Password: 1234
230 Logged in
ftp> put 420AASR0C0.rom rom-0
ftp> bye
```

Where

- User name: the management user name, admin by default.
 - Password: the management password, 1234 by default.
 - 420AASR0C0.rom: the name of configuration file you want to upgrade.
 - rom-0: the internal configuration name in XS1920-12.
-
-