

BEACON

(JANOS v1.6.2 and later)

The Beacon protocol uses UDP packets on port 4444. All commands have a 2 byte length field and a 4 byte serial number field. When packets are sent from the JNIOR the serial number denotes the serial number of the JNIOR sending the packet. When the packets are sent to the JNIOR the serial number denotes the target JNIOR. A -1 can be used in conjunction with a UDP broadcast to get all JNIOs to process the message.

Strings and Arrays are sent with a 2 byte length prefix. Beacon uses big endian for numeric formatting.

MESSAGES SENT BY THE JNIOR

I_AM_JNIOR

This packet is sent from the JNIOR either as a broadcast or in direct response to a query from a specific client. This packet will be sent as a broadcast when sent on boot or as part of the auto announce feature. This packet will target the specific IP Address when sent in response to a query command.

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"I_AM_JNIOR"
4	byte	Auto announce (0=false, 1=true)
5	string	IP Address
6	string	Subnet mask
7	string	Hostname
8	string	MAC Address
9	string	OS Version
10	short	JNIOR Protocol Port
11	string	Boot Time
12 ^{*1}	byte	Is Configured. (0=false, 1=true)
13	byte	Attention Required. (bit-mapped, 0=AllClear)
14 ^{*2}	long	Current Time (UTC)

Attention Required Flag (1=error)

- D0 - Assertion Occurred
- D1 - errors.log file exists
- D2 - Memory test fail
- D3 - SRAM reformatted
- D4 - Flash not mounted
- D5 - dump.log file exists
- D6 - Application start-up error
- D7 - RESERVED

*1 Item 12 is the reverse of "New". The first versions of the beacon app had a checkbox for configured. Then we changed the text to be "Responds to Query New". We also changed the meaning of the flag in the SET_INFO command to reflect Responds to QUERY_NEW.

*2 Item 14 added JANOS v1.6.

ALL_INFO

This packet is sent in response to the GET_INFO request

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"ALL_INFO"
4	string	Gateway IP Address
5	string	Primary DNS
6	string	Secondary DNS
7	int	DNS Timeout
8	string	DHCP Server
9	string	Domain name
10	string	Time zone
11	byte	DHCP enabled (0=false, 1=true)
12	string	Nonce for authentication

*1 Authentication added JANOS v1.6.2

DEATH

This packet is sent as a broadcast from the JNIOR when a soft reboot has been issued

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"DEATH"

MEMORY

This packet is sent as a response to the GET_MEMORY packet.

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"MEMORY"
4	int	Total Available Memory
5	int	Free Ram
6	int	The largest free block of RAM
7	int	The addition of all blocks 32K or larger
8	int	The number of free blocks

COMMANDS SENT TO THE JNIOR

IDENTIFY

This packet is sent to a specific JNIOR to cause its amber status light to pulsate at 10 Hz with a 50% duty cycle thus giving a visible identification to a JNIOR represented in Beacon.

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"IDENTIFY"

QUERY_ALL

This packet is broadcast on the network to see what JNIORs will respond

1	short	size of message excluding extension (15)
2	int	serial number of the JNIOR
3	string	"QUERY_ALL"
		(optional extension)
4	int	size of extension
5	string	"FILTER"
6	int array	Array of serial numbers of units that should ignore the request.

QUERY_NEW

This packet is broadcast on the network to see what NEW JNIORs will respond. By default all JNIORs respond to QUERY_NEW. You can optionally configure a JNIOR to not respond to this command once it has been configured.

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"QUERY_NEW"

GET_MEMORY

This packet is sent to a JNIOR to get its memory statistics. The response is a MEMORY packet.

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"GET_MEMORY"

GET_INFO

This packet is sent to the JNIOR to request the JNIOR to respond with the "ALL_INFO" packet.

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"GET_INFO"

COMMANDS REQUIRING AUTHENTICATION

SET_INFO

This packet is sent to the JNIOR to set the IP Configuration

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"SET_IP_INFO"
4	string	IP Address
5	string	Subnet mask
6	string	Gateway IP Address
7	string	Primary DNS
8	string	Secondary DNS
9	int	DNS Timeout
10	string	Domain name
11	byte	Auto Announce (0=false, 1=true)
12	byte	Respond to QUERY_NEW (0=false, 1=true)
13	string	Time zone
14 *1	string	Authentication

*1 Authentication added JANOS v1.6.2

SET_IP

This packet is sent to the JNIOR to set whether or not DHCP should be used to obtain an IP Address

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"SET_IP"
4	string	IP Address
5	string	Subnet mask
6 *1	string	Authentication

*1 Authentication added JANOS v1.6.2

SET_DHCP

This packet is sent to the JNIOR to set whether or not DHCP should be used to obtain an IP Address

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"SET_DHCP"
4	string	"enabled" / "disabled"
5 *1	string	Authentication

*1 Authentication added JANOS v1.6.2

SET_HOSTNAME

This packet is sent to the JNIOR to set the hostname

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"SET_HOSTNAME"
4	string	Hostname
5 *1	string	Authentication

*1 Authentication added JANOS v1.6.2

SET_TIMEZONE

This packet is sent to the JNIOR to set the hostname

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"SET_TIMEZONE"
4	string	Time zone
5 *1	string	Authentication

*1 Authentication added JANOS v1.6.2

ACK_ATTENTION

This packet is sent to the JNIOR to acknowledge (clear) the Attention flag

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"ACK_ATTENTION"
4 *1	string	Authentication

*1 Authentication added JANOS v1.6.2

BEACON

This packet is sent to the JNIOR to configure the JNIOR whether or not to start to the Beacon Server

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"BEACON"
4	byte	Beacon enabled (0=false, 1=true)
5 *1	string	Authentication

*1 Authentication added JANOS v1.6.2

REBOOT

This packet is sent to the JNIOR to cause it to perform a software reboot. If this packet is broadcast then only the JNIOR with the correct serial number will reboot. Specifying a -1 in the serial number field will cause any JNIOR that receives the packet to reboot.

1	short	size of balance of packet
2	int	serial number of the JNIOR
3	string	"REBOOT"
4 ^{*1}	string	Authentication

*1 Authentication added JANOS v1.6.2

Registry Keys

Enabling or disabling Beacon

Beacon/Enabled = "true" or "false"

Setting JNIOR to respond to Query New

Beacon/QueryNew = "true" or "false"

Setting JNIOR to Auto Announce Itself

Beacon/AutoAnnounce = "true" or "false"