

vtVAX BARE METAL GRAPHICS CONFIGURATION FOR WORKSTATIONS WITH ONE NETWORK INTERFACE



AVT / Vere Technologies
TECHNICAL NOTE

Bare Metal Graphics Configuration with One Network Interface

AVT/Vere Technical Note: vtVAX Bare Metal Graphics Configuration for Workstations with One Network Interface

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Bare Metal Graphics Configuration with One Network Interface

This document describes the procedure for configuring graphics access on VAX systems that have only one network interface. The typical graphics configuration requires the use of two virtual network interfaces on the VAX system: one for the general network traffic, and one dedicated to the X-Windows server. The VAXstation 4000 model 90 supports only one network adapter. To configure the graphics on this system a virtual switch is used to allow both the primary network and the X-Windows server to use the single virtual adapter.

For the purposes of this documentation, 'avt0' is used to designate the virtual switch used for the graphics configuration, and 'eth3' is the host network interface assigned to the virtual VAX. The actual device names may vary depending on your configuration.

The configuration instructions below are performed using the vtMonitor interface.

- (1) Create a network virtual switch (avt0) for the X-Windows server. This is done using the Add Switch function on the Toolbox > Network tab. The switch should appear in the Virtual Network Configuration list, as shown below:

Virtual Network Configuration				Add Switch
Adapter	bond0	up	Bonding port (balance-rr, eth1 eth4)	
Adapter	eth0	up	Broadcom Corporation NetXtreme II BCM5716 Gigabit Ethernet (rev 20)	
Adapter	eth2	up	Broadcom Corporation NetXtreme II BCM5709 Gigabit Ethernet (rev 20)	
Adapter	eth3	up	Broadcom Corporation NetXtreme II BCM5709 Gigabit Ethernet (rev 20)	
Adapter	eth5	up	Intel Corporation 82580 Gigabit Network Connection (rev 01)	
Adapter	eth6	up	Intel Corporation 82580 Gigabit Network Connection (rev 01)	
Adapter	eth7	up	Intel Corporation 82580 Gigabit Network Connection (rev 01)	
Adapter	mgr0	up	Virtual management port	
Adapter	xwi0	up	Virtual X-windows port	
Switch	avt0	down	Virtual network switch (stp on)	
Switch	avt1	down	Virtual network switch (stp on)	

- (2) Add connections xwi0 and eth3 to switch avt0, as shown below:

Virtual Network Configuration			
Add bond0 (Bonding port (balance-rr, eth1 eth4)) to Switch avt0			
Add eth0 (Broadcom Corporation NetXtreme II BCM5716 Gigabit Ethernet (rev 20)) to Switch avt0			
Add eth2 (Broadcom Corporation NetXtreme II BCM5709 Gigabit Ethernet (rev 20)) to Switch avt0			
Add eth3 (Broadcom Corporation NetXtreme II BCM5709 Gigabit Ethernet (rev 20)) to Switch avt0			
Add eth5 (Intel Corporation 82580 Gigabit Network Connection (rev 01)) to Switch avt0			
Add eth6 (Intel Corporation 82580 Gigabit Network Connection (rev 01)) to Switch avt0			
Add eth7 (Intel Corporation 82580 Gigabit Network Connection (rev 01)) to Switch avt0			
Add mgr0 (Virtual management port) to Switch avt0			
Add xwi0 (Virtual X-windows port) to Switch avt0			
Add a new Management Port to Switch avt0			
Disable the Spanning Tree Protocol on Switch avt0			
Adapter	mgr0	up	Virtual management port
Adapter	xwi0	up	Virtual X-windows port
Switch	avt0	down	Virtual network switch (stp on)
Switch	avt1	down	Virtual network switch (stp on)

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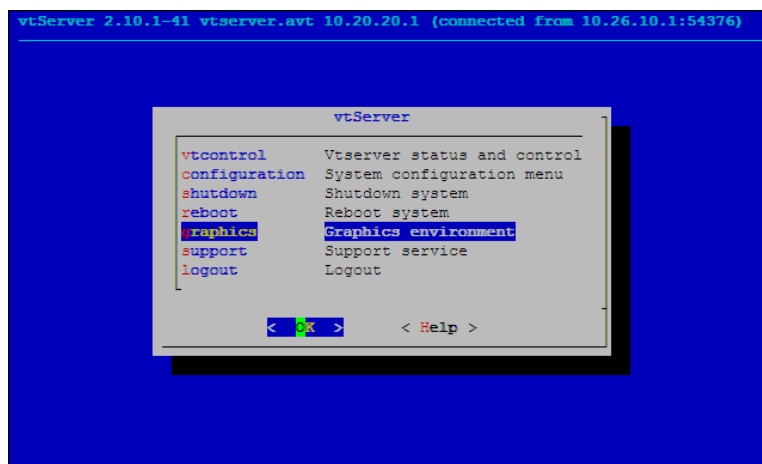
The network configuration should appear as below after configuring avt0:

Virtual Network Configuration				Add Switch
Adapter	bond0	up	Bonding port (balance-rr, eth1 eth4)	
Adapter	eth0	up	Broadcom Corporation NetXtreme II BCM5716 Gigabit Ethernet (rev 20)	
Adapter	eth2	up	Broadcom Corporation NetXtreme II BCM5709 Gigabit Ethernet (rev 20)	
Adapter	eth5	up	Intel Corporation 82580 Gigabit Network Connection (rev 01)	
Adapter	eth6	up	Intel Corporation 82580 Gigabit Network Connection (rev 01)	
Adapter	eth7	up	Intel Corporation 82580 Gigabit Network Connection (rev 01)	
Adapter	mgr0	up	Virtual management port	
Switch	avt0	up	Virtual network switch (stp on)	
Port	eth3	up	Broadcom Corporation NetXtreme II BCM5709 Gigabit Ethernet (rev 20)	
Port	xwi0	up	Virtual X-windows port	
Switch	avt1	down	Virtual network switch (stp on)	

- (3) Configure xwi0 with an IP network address and mask in the same subnet as the virtual VAX system's IP address. This is done by selecting xwi0 in the Virtual Network Configuration list, then changing the configuration information in the top portion of the display.

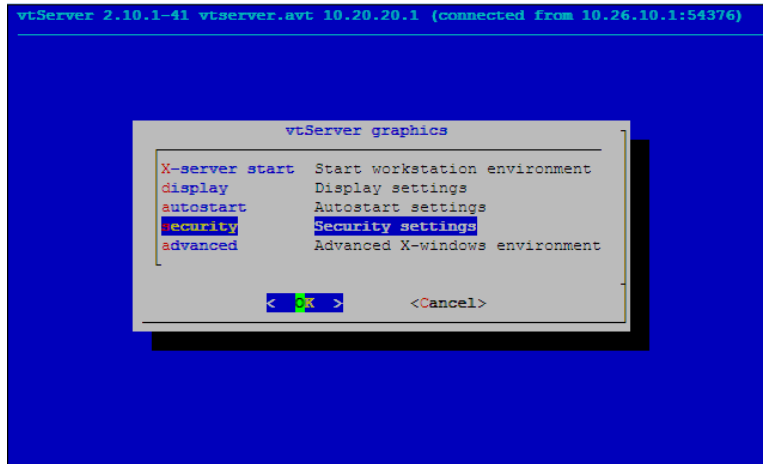
Selected:	xwi0 (Virtual X-windows port)			
IP-address:	10.10.10.250	Change to:	<input type="text" value="10"/> . <input type="text" value="10"/> . <input type="text" value="10"/> . <input type="text" value="250"/>	<input type="checkbox"/> = Default Gateway
Subnet mask:	255.255.255.0	Change to:	<input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="0"/>	
Gateway:		Change to:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>	
DNS server (1):	10.10.10.1	Change to:	<input type="text" value="10"/> . <input type="text" value="10"/> . <input type="text" value="10"/> . <input type="text" value="1"/>	
DNS server (2):		Change to:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>	
DNS server (3):		Change to:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>	
MAC-address:	BA:35:88:94:11:64	<input type="checkbox"/> DHCP		
State	xwi0	up		
Update				

- (4) Use the vtServer console interface (blue screen) or a SSH connection to log in to vtServer, and move cursor to "Graphics environment" and press OK.



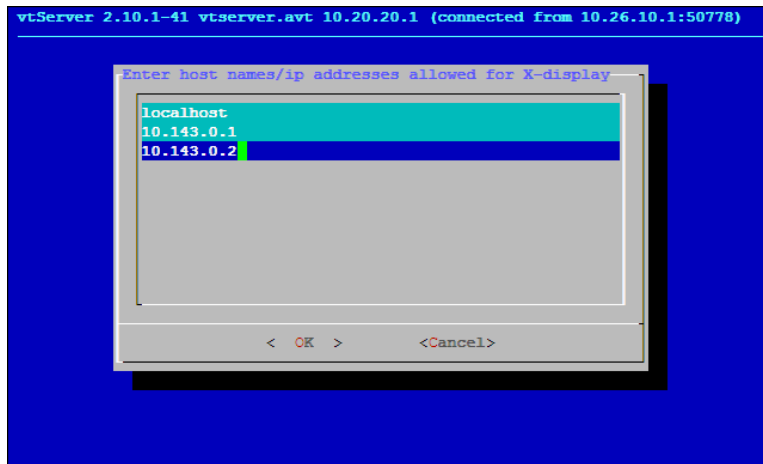
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(5) Select "Security settings" and press OK.



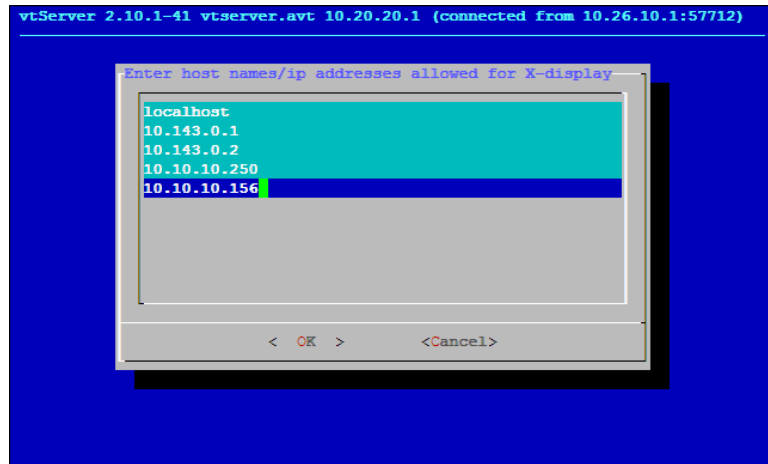
(6) Add the IP addresses assigned to xwi0 and the virtual VAX to the authorization list.

- a. Use the arrow keys to position the cursor at the end of the last line of the existing entries in the list.



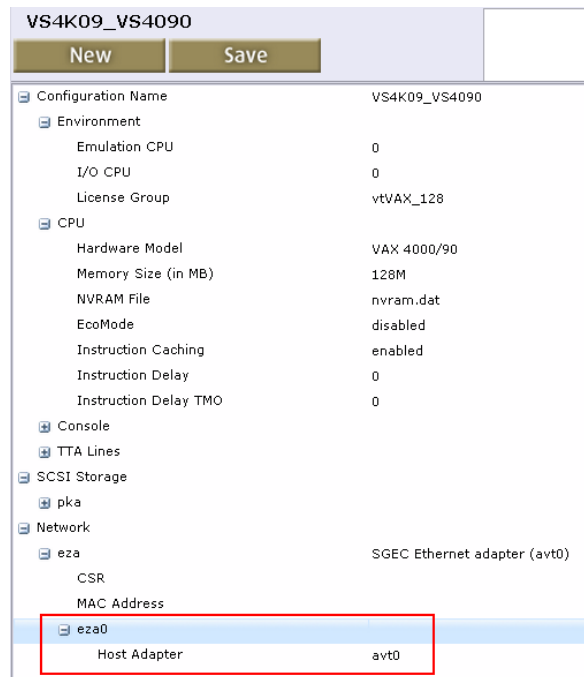
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- b. Press the Enter key and enter the IP addresses to be added to the list.



- c. Press Tab to highlight OK, then press Enter.

- (7) Using vtMonitor: select the Configuration tab and create or edit the virtual VAX configuration. Attach network device eza0 to host adapter avt0.



- (8) Start the vtVAX configuration, boot OpenVMS, and login.
- (9) Edit file "DECW\$STARTAPPS.COM", changing the values of the transport and node qualifiers on the SET DISPLAY command, as shown below, then reboot OpenVMS.

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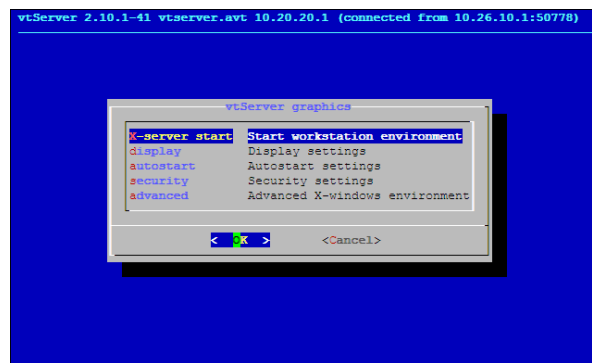
Original:

```
$ set display /create /permanent /transport=local/node='decw$appnode -  
/server='decw$appserver/screen='decw$appscreen decw$startup_device
```

Modified:

```
$ set display /create /permanent /transport=tcpip/node=10.10.10.250 -  
/server='decw$appserver/screen='decw$appscreen decw$startup_device
```

- (10) On the vtServer Graphics configuration menu (see step (4), above), select “x-server start” and press OK to open the X-Windows display. To exit the X-Windows display, press Ctrl+Alt+Backspace twice.



- (11) To automatically enable the X-Windows display when the vtVAX configuration is started, select the “autostart” option from the Graphics menu and press OK.