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XenServer 6.0 Ports and Connections

Connecting XenServer to Physical Switches

1. Enable PortFast on the ports you are plugging in XenServer hosts.
   Note:
   - Port must be an 802.1q trunk port if you are using VLANS.
   - PortFast should only be enabled on ports connected to single host.
   - Ports used for storage should have PortFast enabled
   Note: It is important that you enable PortFast with caution, and only on ports that do not connect to multi-homed devices such as hubs or switches.
2. Disable Port Security on XenServer connected ports.
3. Disable the Spanning Tree Protocol on the poyou are plugin in XenServer hosts. If you are bonding or teaming NICs, you should disable the Spanning Tree Protocol to avoid failover delay issues (in a virtual environment).
4. If using a Cisco switch, disable the PortFast Bridge Protocol Data Unit (BPDU) guard feature on the ports you are plugging in XenServer hosts.
5. Change port speed settings to Full Duplex and Static if using 10/100 switch.

Notes

- For most environments, Citrix recommends segregating VM traffic from management traffic as the best practice. Also it is recommended to separate the storage traffic from the VM and management traffic.
  In smaller environments, you may want to use the management network also for all VM and Storage traffic. However, Citrix recommends evaluating the performance of this config regularly.
- Having many connections to VLANs (for example 100s) configured on a host creates an addition load on the Control Domain, which frequently results in reduced network performance
  Having numerous VLANs can also impact your host, pool and VMs performance.
- Citrix recommends bonding the primary management interface if the XenServer High Availability feature is enabled as well as configuring multipathing or NOC bonding for the heartbeat SR.
- Always create bonds before creating virtual interfaces in VMs
- Do not attempt to bond NICs while the HA feature is enabled. Creating bonds can interrupt the in-process HA heartbeat and cause hosts to self-fence (shut down). Consequently, the host probably will not boot correctly and will need the **host-emergency-ha-disable** command to recover.
- Note that Active-Active bond does NOT mean that a VM gets double the bandwith (se page 57 in "Designing XenServer 6.0 Network Configurations" for more info)

XenServer Supported Configuration

- Up to 16 physical network interfaces (or up to 8 pairs of bonded network interfaces) per XenServer host
- Max 2 physical network interfaces per bond.
- Up to 7 virtual interfaces per VM
- Active-Active and Active-Passive bonding modes are supported. DMP and RDAC MPP multipath handlers are also supported.
- Types of networks: External, Cross-server private, Single-server private and VLANs
- There is no Citrix-imposed preset limit on number of VLANs

Diagram elements

- Web-based admin console
- 8082 TCP (HTTPS)
- Citrix License Server
- Database Server
- 1433 TCP (MS SQL)
- 27000 TCP (Citrix Licensing)
- Provisioning Server Farm
- At least five (5) ports must exist in the port range selected.
- 6890-6909 UDP (Server Communication)
- Citrix Provisioning Server
- Citrix Provisioning Server
- 389 UDP/TCP (LDAP)
- Active Directory Server
- XenServer only need this connection if accounts from Active Directory should be used for login into XenServers and XenCenter. If only local XenServer accounts are used then this connection is unnecessary.
- 27000 TCP (Citrix Licensing)
- DNS Server
- 53 UDP/TCP (DNS)
- 88 UDP/TCP (Kerberos)
- 139 TCP (NetBIOS Session (SMB))
- 137 UDP (NetBIOS Name Service)
- 464 UDP/TCP (Machine pasword changes)
- 3268 TCP (Global Catalog search)
- 445 TCP (SMB over TCP)
- 389 UDP/TCP (LDAP)
- TFTP Server
- PXE Server
- DHCP Server
- 6910-6930 UDP (Disk I/O)
- 67+4011 UDP (PXE)
- 67+68 UDP (DHCP)
- 69 UDP (TFTP)
- Syslog Server
- 512 UDP (Syslog)
- NTP Server
- 123 UDP (NTP)
- XenServer Pool
- XenServer only need port 443 (for synchronizing the pool). Port 22 is used for SSH access between hosts
- VMs
- 22 TCP (SSH) 443 TCP (HTTPS)
- Citrix XenServer
- Citrix XenServer
- 22 TCP (SSH) 3389 TCP (RDP) 5900 TCP (VNC)
- 22 TCP (SSH) 443 TCP (HTTPS)
- 22 TCP (SSH) 443 TCP (HTTPS)
- Citrix XenServer
- 3260 TCP (iSCSI)
- iSCSI Storage
- 22 TCP (SSH) 443 TCP (HTTPS)
- 8012 TCP (WLB trafik)
- Appliance VMs
- 2049 TCP (NFS)
- NFS Storage
- Workload Balancing Virtual Appliance
- vSwitch Controller Virtual Appliance
- Web Self Service Virtual Appliance
- 139 TCP (NetBIOS Session) 445 TCP (Microsoft-DS)
- ISO Store (CIFS)
- Citrix XenCenter
- XenCenter only need 443. Port 3389 and 5900 are used to connect to VM-consoles with RDP and VNC from XenCenter. Port 22 is used for SSH access to XenServers or VMs
- 22 TCP (SSH) 443 TCP (HTTPS)
- Web-based admin console or SSH connection
- 443 TCP (HTTPS)
- Web-based admin console

References

http://support.citrix.com/article/CTX129994 *Provisioning Services 6.0 Installation and Configuration Guide*
http://support.citrix.com/article/CTX130420 *XenServer 6.0 Administrator's Guide*
http://support.citrix.com/article/CTX130423 *XenServer 6.0 vSwitch Controller User Guide*
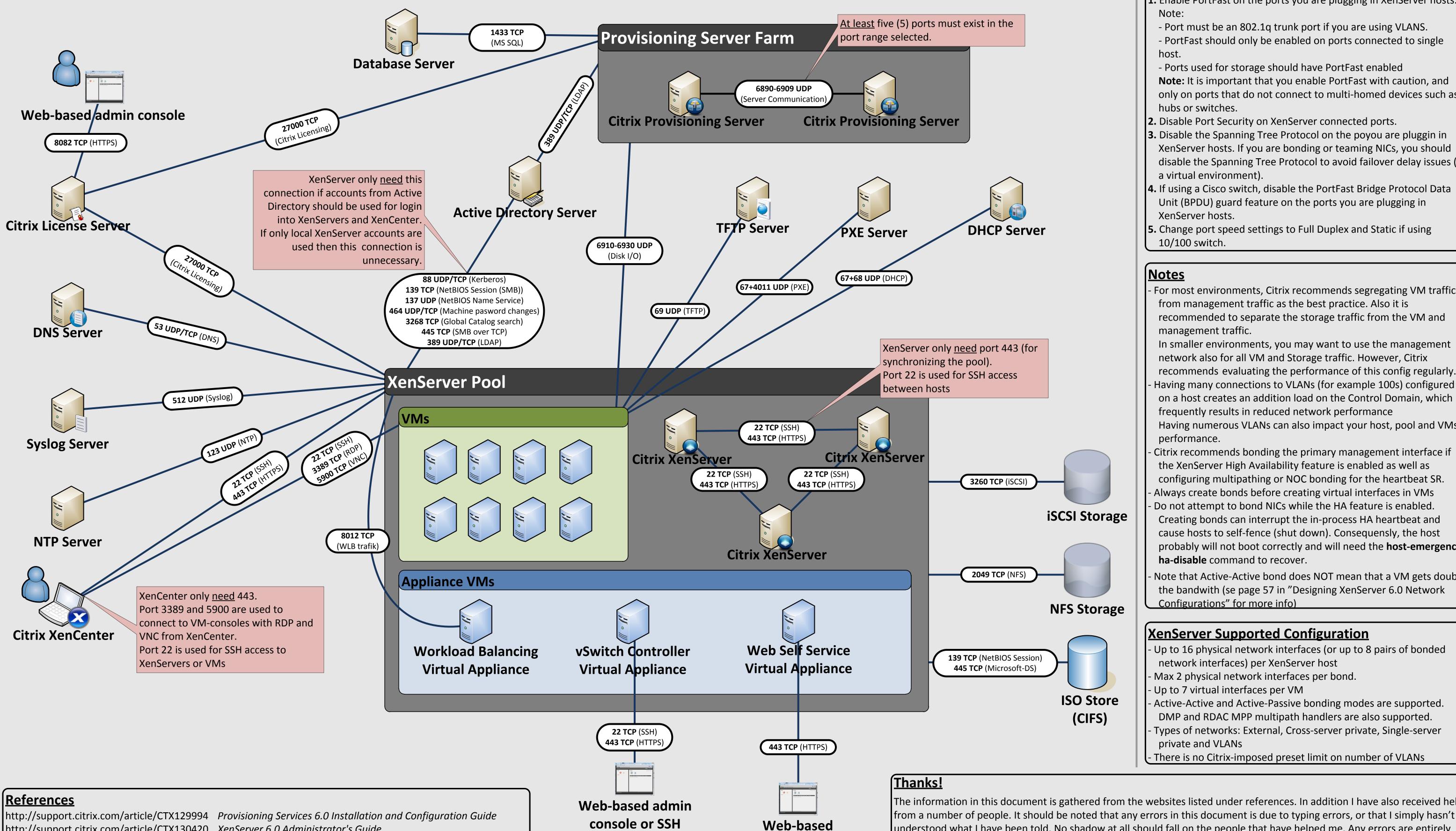http://support.citrix.com/article/CTX130429 *XenServer Workload Balancing 6.0 User Guide*
http://support.citrix.com/article/CTX101810 *Communication ports used by Citrix Technologies*
http://support.citrix.com/article/CTX130437 *XenServer 6.0 Web Self Service Administrator's Guide*
http://support.citrix.com/article/CTX130924 *Designing XenServer 6.0 Network Configurations*

And by tracing network trafic. ☺

Thanks!

The information in this document is gathered from the websites listed under references. In addition I have also received help from a number of people. It should be noted that any errors in this document is due to typing errors, or that I simply hasn't understood what I have been told. No shadow at all should fall on the people that have helped me. Any errors are entirely my fault.
A very big thank you goes out to (in alphabetical order)
- Christian Eilskov (Citrix Systems)
- Marko Pesonen (TeleComputing Sweden AB)
- Mikael Moser (TeleComputing Sweden AB)
- Robert Rosenholm (TeleComputing Sweden AB)
- Sven-Erik Hurtig (Arrow ECS Sweden AB