Best Practices Whitepaper

Internal HPDM Repository for External Clients

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*This guide was developed around **HP Device Manager V5.0.3** but the concepts and configuration can be applied to previous versions back to HP Device Manager back to **V4.7 SP10.***

Introduction

To configure a HP Device Manager Repository to service Thin Clients that are separated by a NAT firewall takes some behind the scenes magic.

The HPDM Server and the HPDM Repository are separate pieces of HPDM infrastructure. In the scenario where all components are installed together, the MRC and Console refers to the same hosts file. The MRC and Console need to "see" the HPDM Repository using the same name as external clients use to access the HPDM Repository. While the HPDM Server will resolve the name to a different IP address than the external thin clients, as there is a common name, everything works.

Note: HPDM Agent to HPDM Gateway traffic is handled differently than HPDM Agent to HPDM Repository traffic. While HPDM Agent locks onto the IP address of the HPDM Gateway, the HPDM Repository address is supplied at the start of *every* task.

External (outside NAT firewall) clients can connect to the HPDM Gateway component via an external IP address without extra HPDM configuration required. The only environment configuration required is an external to internal address mapping on the NAT firewall.

For more information on HPDM go to www.hp.com/go/hpdm

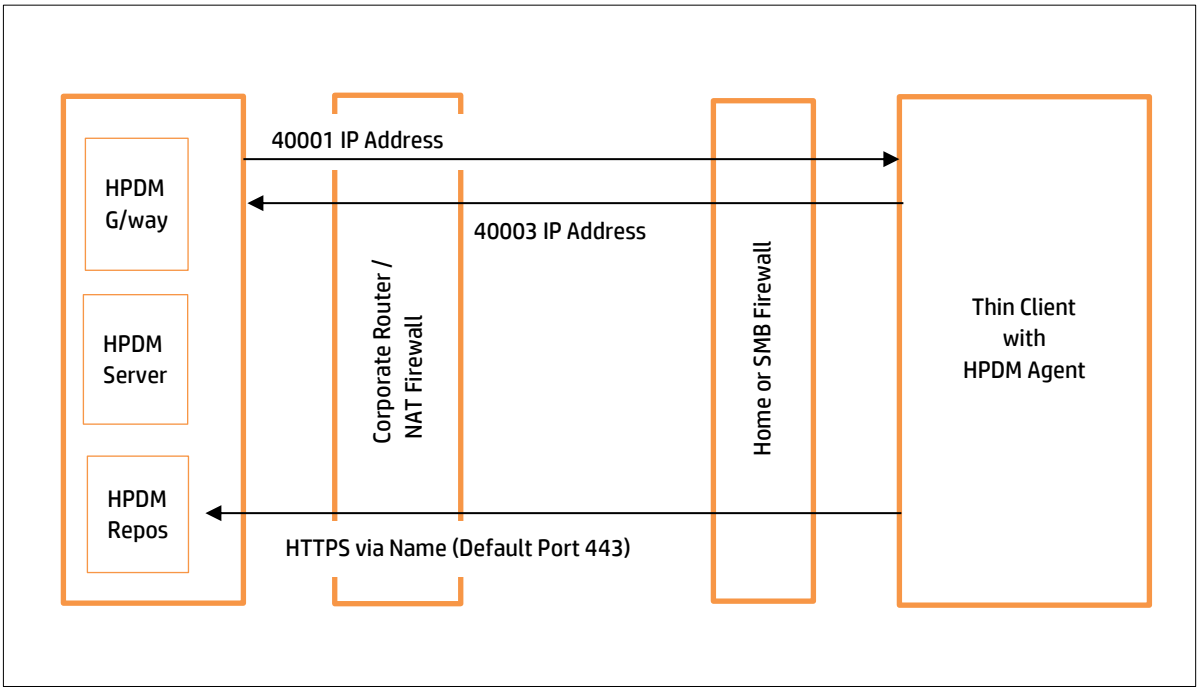
To access the HP Device Manager Admin Guide for V5.0, please go to:
https://ftp.hp.com/pub/hpdm/Documentation/AdminGuide/5.0/HP_Device_Manager_5.0.3_Administrator_Guide_en_US.pdf

Overview

For this document, the HPDM Server Service, HPDM Gateway Service and HPDM Master Repository Service are all installed on a single Windows® Server. While the concepts are transferable, multi-server configurations are beyond the scope of this document.

Figure 1 below represents the end state of a HPDM environment configured to support external or Internet Connected thin clients.

Figure 1. HPDM Traffic Diagram



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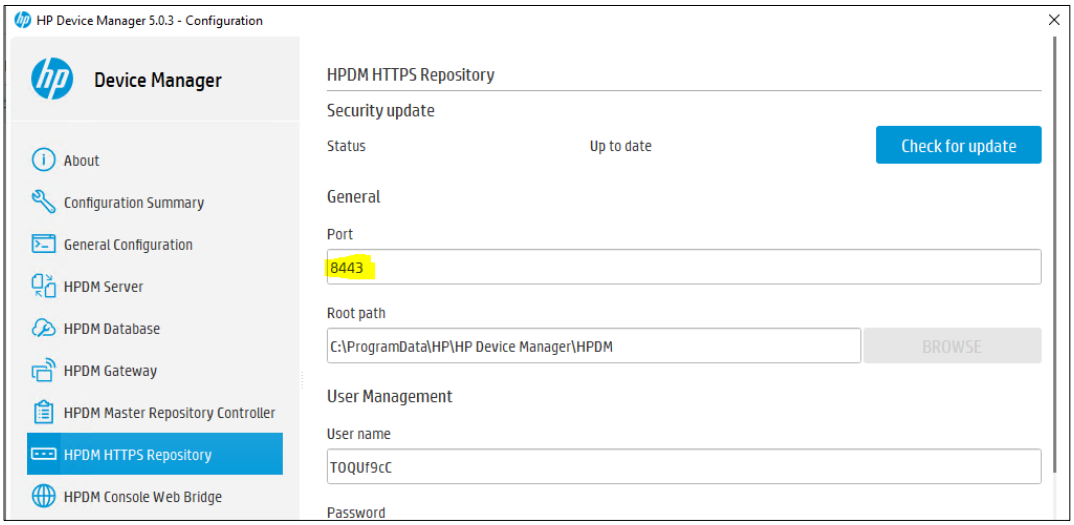
Prework

One commonly used option is to change the HPDM Repository HTTPS access port from the default of 443 to 8443. This frees up port 443 to be used by the HPDM Console Web Bridge which makes access to the HPDM Web Console via a web browser simpler.

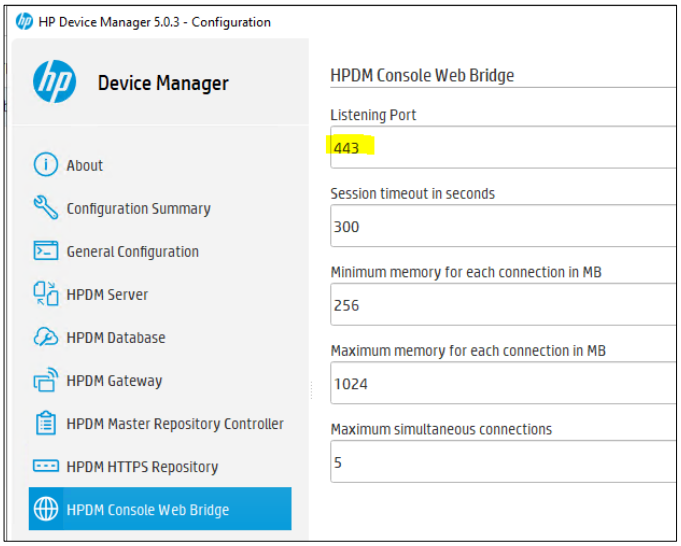
Note: The port 8443 has been chosen for this example but a different port could be chosen to suit the customer requirements.

Figure 2. HPDM HTTPS Repository



Following on from the HPDM Repository HTPPS port configuration, change the HPDM Console Web Bridge to port 443 as per Figure 3 below.

Figure 3. HPDM Console Web Bridge Configuration



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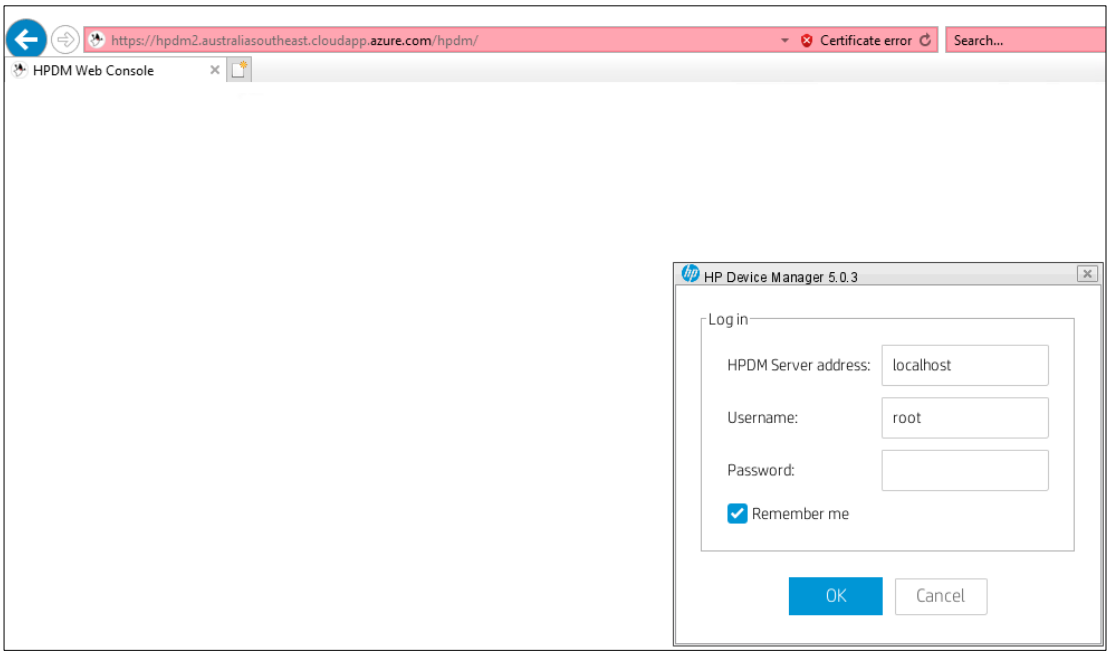
Once HPDM Web Console has been changed to use port 443, it is possible to logon to HPDM Web Console using as browser without specifying a port as per Figure 4 below.

Figure 4. HPDM Web Console Logon Page



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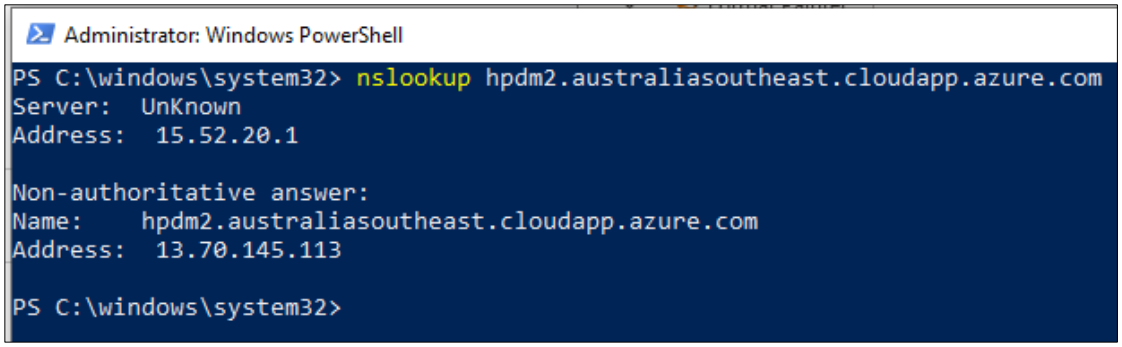
Configuring HPDM Repository Server

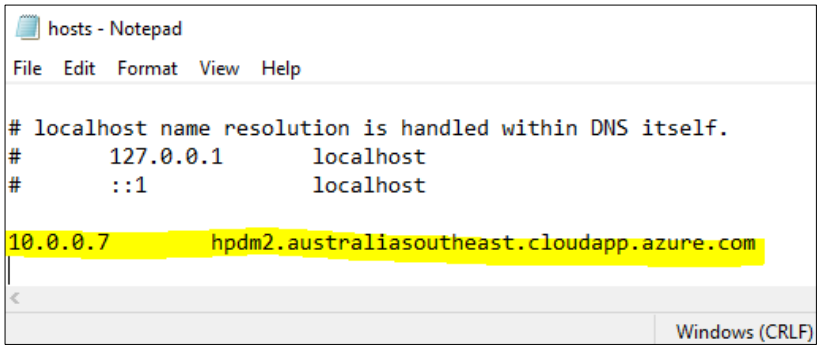
1. Test the Internet resolvable FQDN name of your HPDM Repository Server. If the FQDN cannot be resolved, you cannot use it. Figure 5 below shows "*hpdm2.australiasoutheast.cloudapp.azure.com*" as an internet resolvable FQDN of the HPDM Repository Server. In this example, it is also the HPDM Server.

   Figure 5. Checking External HPDM Repository Name to IP Address



2. Update the **Hosts** file (c:\Windows\Sysem32\Drivers\etc\hosts) on the MRC and console. Map the Internal IP address of the HPDM Repository Server to the External Name used by the thin clients.

   Figure 6. Update Hosts File Sample



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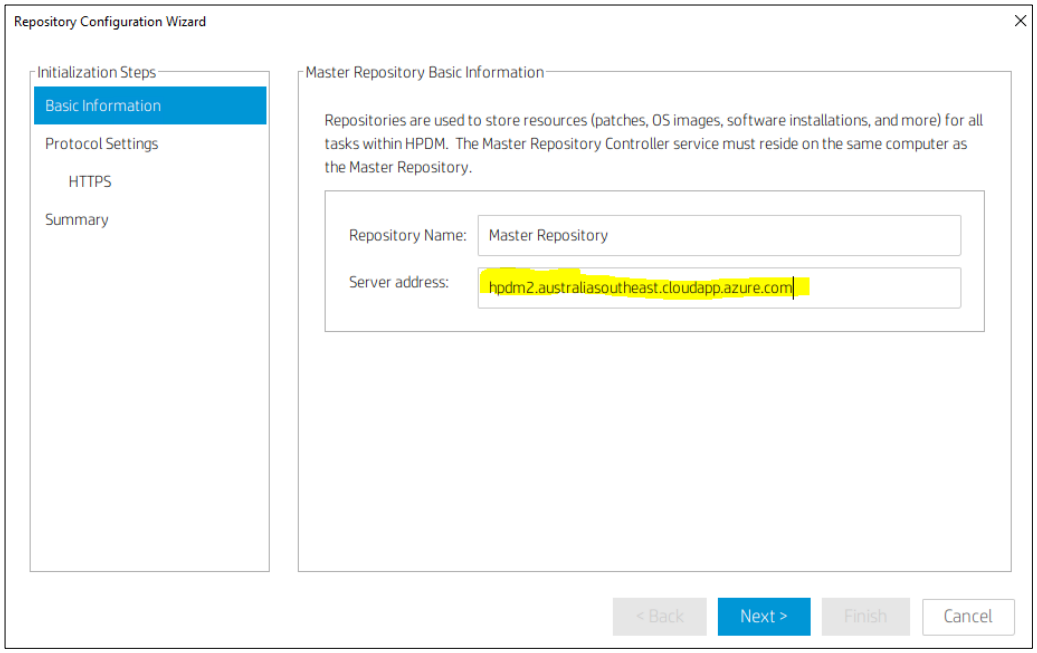
3. Using the HPDM Console, update the HPDM Master Repository configuration to replace the IP address of the internal HPDM Repository Server with the Internet resolvable name of the HPDM Repository Server. The name must be the Fully Qualified Domain Name, not just the hostname.

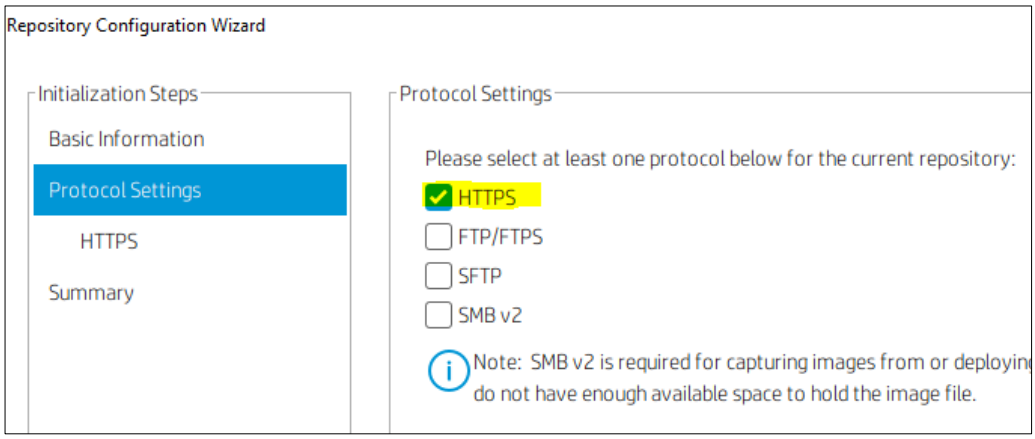
Figure 7. Repository Configuration Server Address



4. The only HPDM Repository Server file transport protocol required to service external thin clients is HTTPS. HTTPS will not currently support image capture or deploy to Windows based thin clients, but this is not really something you want to do over the internet anyway. SMB also has problems with mismatching names.

   Refer to this article for assistance: https://support.microsoft.com/en-us/help/3181029/smb-file-server-share-access-is-unsuccessful-through-dns-cname-alias

Figure 8. Repository for External Clients



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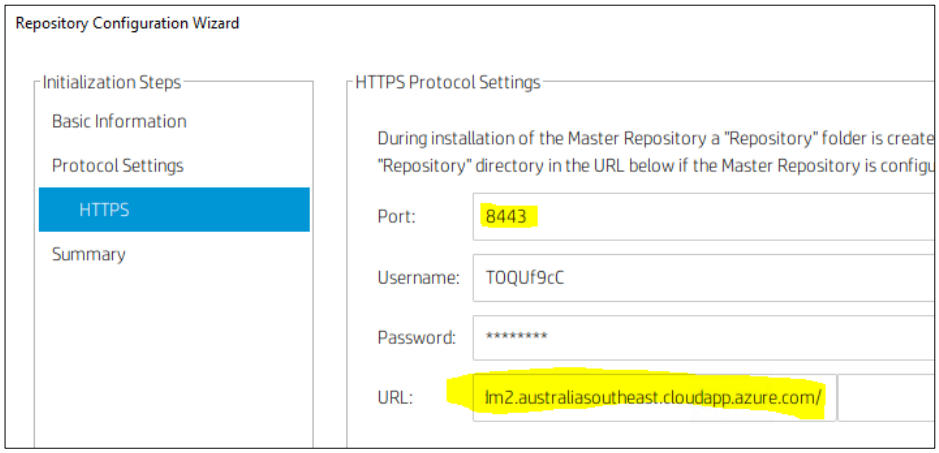
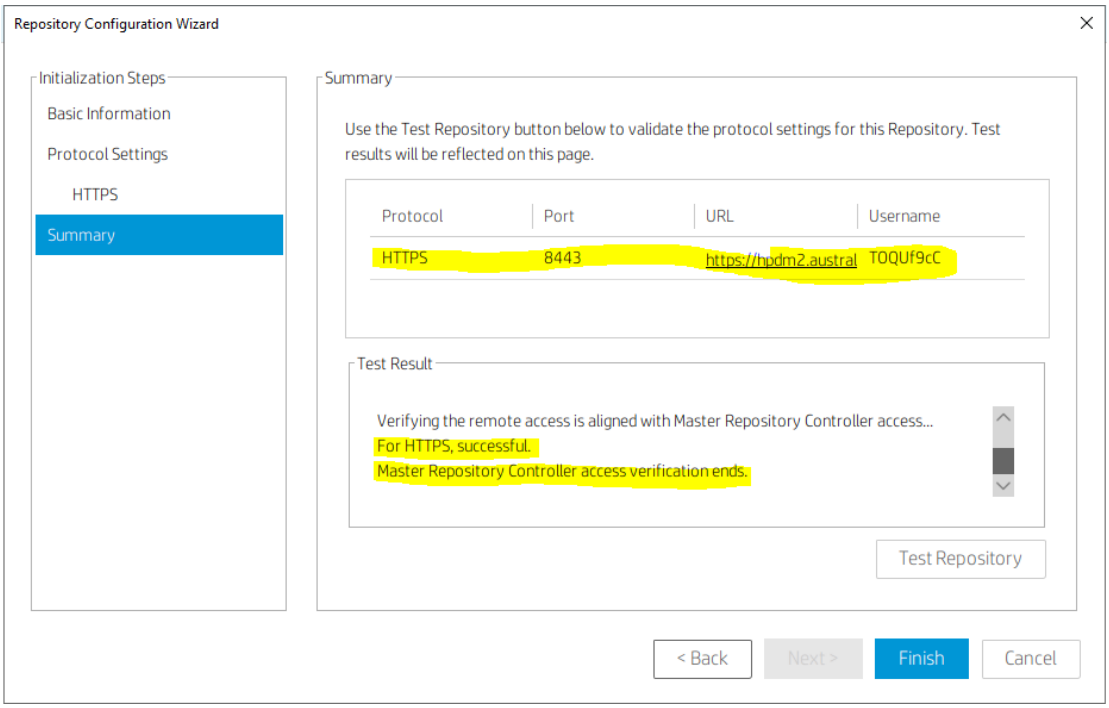
5. Ensure the HTTPS Protocol Settings are configured for the previously chosen port number (Figure 2). Also check the HPDM Repository Server URL is the Internet resolvable FQDN of HPDM Repository Server (Figure 5).

Figure 9. Repository Configuration HTTPS Port



6. Ensure the test of the HPDM Repository is successful. If the test is unsuccessful, go back and check all steps above. Also check server firewall is configured to allow the HTTPS port.
Note: At this point all HTTPS communication is local to server hosting HPDM Server and HPDM Repository Server

Figure 10. Repository Configuration Test



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Infrastructure Firewall Rules

To support the HPDM configuration described in this document, there are a few firewall and NAT rules required to allow traffic to pass between internal server infrastructure and external placed thin clients.

1. Port 40001 - Outbound - HPDM Gateway Server to the internet
2. Port 40003 – Inbound Firewall and NAT – Internet based thin clients to the HPDM Gateway Server
3. Port 8443 – Inbound Firewall and NAT – Internet based thin clients to the HPDM Repository Server. (NOTE: The port 8443 has been chosen for this example but a different port could be chosen to suit the customer requirements).

For a more detailed discussion of HPDM port requirements see the HP Device Manager Admin Guide.
https://ftp.hp.com/pub/hpdm/Documentation/AdminGuide/5.0/HP_Device_Manager_5.0.3_Administrator_Guide_en_US.pdf

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