



Shipping & Mailing
Business Manager Configuration

Business Manager Configuration

White Paper

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1 Overview

Business Manager is a PC based integrated information management system that allows businesses to monitor, track, manage, optimize and report on the operations of their mailing and shipping systems. Business Manager is available as a turnkey system that consists of a number of components that may be deployed in different configurations to best meet customer's needs.

This document provides an overview of these configuration options and provides guidelines for configuring new systems. The following sections will break out the hardware/external components and then follow with a description of some of the key software modules in the system.

It is expected that this PC is a dedicated system for the purpose of Business Manager. It should not be configured with a host of 3rd party applications.

2 Hardware and External Systems

2.1 Business Manager Host Computer

The Business Manager Host contains the consolidated postal accounting data gathered from the different systems connected to it. This data includes items that are shared and used when collecting transactional data such as users, jobs, and accounts and also the transactional data, pieces, postage, class of mail that is collected from various mailing machines, external systems, etc. It currently runs in the Windows 7 OS.

2.2 Business Manager Data Collector PC

The Business Manager Data Collector PC is an older way of connecting to DM Infinity™. The preferred way is direct connect via LAN. The Business Manager Data Collector is located adjacent to a mailing machine and connected via a serial cable. Communication with the Business Manager Host Database is over an Ethernet TCP/IP connection. Optional peripherals such as a scale, barcode scanner or receipt printer may also be attached to a Business Manager Data Collector Computer.

2.3 Connect+ Mailing Machine

The Connect+® Series is a digital envelope and mail printing system that allows you to create custom designed content from a PC and download that content directly into a graphics library stored on the Connect+™ for use on mail runs. You can now design an outer envelope with content that reinforces the internal message. You can add marketing, advertising, and other promotional messages to your mail pieces.

The Connect+® Series provides a unique and easy-to-use touch screen interface where you can access all of your applications from the home screen. Each application appears on the Home screen as a button. Simply tap on the button to run the applications. Use the full access web applications Verify Address, Track a Package, and My Account to increase you mailing efficiencies.

The system also provides a full range of mail system functions including:

- Printing postage on envelopes
- Printing postage on tapes (labels)
- Sealing envelopes
- Calculating postage based on item weight and size and class of mail.

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2.4 DM Series™ & DM Infinity™ Mailing Machines

Pitney Bowes DM Series Mailing machines contain an IntelliLink® Control Center that is used to operate them. When used in a Business Manager installation, these machines include Business Manager Software embedded directly in the ICC that allows all accounting related operations to be performed directly at the machine itself. The operator may use the ICC to select accounts and jobs that were defined at the Business Manager Host, to run mail, to add batch surcharges, and to post transactions against these accounts and jobs.



This connection is via LAN/WAN. In addition to interfacing to a standard meter for the DM500™ through the DM1000™ and DM Infinity™ Mailing Systems, Business Manager can also interface to the DM Series Permit Mail ICC. The Host Business Manager System must be at Version 4.0.4 or greater in order to use the DM Infinity IntelliLink Software Interface. The Business Manager IntelliLink Software and Meter Interface is required for each ICC. A barcode scanner is available as an optional peripheral.

2.5 Ascent/Sendsuite Express/Sendsuite Live Connectivity

Business Manager is designed to interface with the Pitney Bowes Ascent/Sendsuite Package Management Systems. The integration of these systems provides a consolidated view of shipping transactions made by both Business Manager and Ascent. In this configuration, the Ascent System will be able to charge to accounts that are defined on a Business Manager Host and will send transactions to that Host. The interface is based on file exchange of predefined CSV formats. This can be manual or scheduled process.

There are numerous options that may be used for data synchronization and transfer ranging from a simple disk based transfer to using a dialup connection to making a direct network transfer via a shared directory, file transfer, fixed CSV format.

2.6 Components for Enterprise Wide Data Collection and Consolidation

In addition to installations with a single Business Manager Host, multiple host configurations are available that provide for enterprise wide data collection and consolidation. In these configurations, remote sites can be managed independently allowing site personnel to administer, collect and report on data locally. The remote sites also synchronize with and send transactions and Funds Management information (if license is purchased) to a central, master host, which provides a consolidated view of all enterprise-wide data. In these configurations, transactions can be charged either to local accounts defined at specific sites or to global accounts defined for the enterprise.

2.6.1 Business Manager Master Host Computer

A Business Manager Master Host Computer is a special version of the Business Manager Host that is used in multiple host configurations of Business Manager. A multiple host configuration contains one Business Manager Master Host Computer. The multiple hosts in an installation form an enterprise and the Master Host is used to configure and administer this enterprise and collect and report on consolidated data for the enterprise. A Business Manager Master Host is a fully configured Business Manager Host with the addition of the Master Host Consolidation Database and its associated services for data consolidation, enterprise management, and reporting.

2.6.2 Remote Host Computers

All hosts in a multiple host solution other than the Master Host are Remote Hosts. Remote Hosts are standard Business Manager Host Computers with the additional features required to communicate with the Business Manager Master Host, synchronize accounting data, and upload transactional and Funds Management data (if license is purchased) for consolidation. The communication is via a LAN, WAN, or Dial-up connection.

2.7 Business Manager Software Components

2.7.1 Business Manager Administration Module software

The Business Manager Administration Module is the software application that is used for administering the Business Manager system and viewing and reporting on all collected data. This application is always installed on the Business Manager Host PC and the Administrative Workstation and may be optionally installed on the Data Collector PC.

2.7.2 Connect+ Interface (CPI) software

Our latest meter system is the Connect+. The CPI is a module that provides the interface to our web service in the PB Cloud and the Business Manager Administrative Module. This web connection is TLS 1.0 and SSL compliant, password protected. It sends accounts to the Connect+ system and pulls transactions down from the Connect+ system. It Utilizes TCP/IP connections, HTTPS: SOAP messaging.

2.7.3 Business Manager Data Collector Module software

The Business Manager Data Collector Module is the software application that runs on a Business Manager Data Collector Computer. The Business Manager Data Collector Module provides the functionality and user interface for controlling and collecting data from the mailing machine as well sending this data to the Business Manager Host Database. Connection to a particular type of machine is discussed in relevant sections. Connection to the Business Manager Host is via ODBC connection.

2.7.4 Business Manager DM Series™ & DM Infinity™ Interface Service Software

Our legacy Manager DM Series Interface Service is a software application that is used to communicate with Pitney Bowes DM Series Mailing machines. This software is installed on the Business Manager Host Computer and enabled on each IntelliLink® Control Center or ICC. The software allows DM Series Mailing Machines to receive information such as accounts, operators and jobs from the Business Manager Host Computer and to send transactions posted to these accounts back to the Business Manager Host Computer.

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3 Networking

The Business Manager Components are networked together using a standard TCP/IP Ethernet network. This network may be a local mailroom network, a corporate LAN, or a corporate WAN. The devices that are connected to the network are the Business Manager Computers and the DM Series Mailing Machines. The Business Manager Computers all contain Ethernet network adapters with standard RJ45 connectors. The DM Series Mailing machines are also equipped with Ethernet network adapters with standard RJ45 connectors and may be plugged directly into a standard network. The Business Manager can be optionally equipped with an additional network card so that it may be connected both to a local Mailroom LAN and to a Corporate LAN or WAN if desired.

3.1 Static or Dynamic IP Addresses

Depending on the component, Business Manager supports both static and dynamic IP addressing Connect+ and DM Series Mailing Machines. Data Collectors can have their IP addresses assigned manually or they may be retrieved from a DHCP server.

The Business Manager Host Computer is required to have a static IP address. This can also be assigned either manually or retrieved from a DHCP server and permanently assigned. The reason for this is that the Business Manager Software resident in the DM Series Mailing Machines refers to the Business Manager Host by IP address and not by host name.

The Business Manager Computers may be configured as either a domain or a workgroup. A workgroup configuration is simpler and does not require a Domain Name Server.

The choices of using a DHCP server or not for determining IP addresses and determining whether the address is in a workgroup or domain are customer preferences. The primary Business Manager network requirements are that the network is configured such that all DM Series Mailing Machines and Data Collector Computers have access to the Business Manager Host Computer and that the Business Manager Host Computer has a fixed IP address. The Business Manager and Connect+ machine must be able to get to the internet.

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3.1.1 Communication Requirements

Although the following information is available throughout the rest of this document, it is summarized here for convenience. Different ports must to be opened bi-directionally depending upon the network configuration and the objects being connected. Use the following to configure network settings:

FEATURE	PORT(S)	PORT DIRECTION
Host-to-Host	80	Bi-directional
	21 for ftp	Bi-directional
Host to SQL Server	1433	Bi-directional
	1434	Bi-directional
Data Collector to Host	1433	Bi-directional
	1434	Bi-directional
DM Series and DM Infinity to Host	6145	Bi-directional
Funds Management Host to Internet	80	Bi-directional
	21 for ftp	Bi-directional
Funds Management, Business Manager Host to Internet	80	Bi-directional
	21 for ftp	Bi-directional
Funds Management between Host and DM Series and DM Infinity Meters	6998 at host;	Bi-directional
	6996 at DM	Bi-directional
The following ports must be enabled for support of Host and DM Series and DM Infinity on-meter refills that utilize the host as a pass-through:	7000	Bi-directional
	7002	Bi-directional
	7004 (for software download from Postage by Phone)	Bi-directional
	7006	Bi-directional
	7777	Bi-directional
Connect+™	443	

Host-to-Host communications are XML with HTTP (SOAP) via TCP/IP. DM Series Mailing System to Host communication is XML over TCP/IP. Data Collector to Host communication is SQL, utilizing an ODBC connection.

3.3 NAT

NATing (NAT stands for Network Address Translation) is used at some installations to map one IP address to another, usually public IPs to private IPs. This mapping can be either static or dynamic, depending upon the capabilities of the network device. Business Manager only supports NATing with static mappings.

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3.4 URL

The following URLs must be accessible from the Connect+ system, without any obstructions.

The table below summarizes the list of required and optional firewall port exceptions. It is suggested to open all the optional services as the Connect+ machine normally ships with all options enabled. Customers can request certain options to be disabled. Please check with the owner of the machine to determine if certain functions have been disabled and can therefore be left out of the firewall exception rules.

Function	Description	Firewall Exception Rule(s)
Distributor	Main PB server that authenticates machine for access to other PB web services	https://distservp1.pb.com/dstproduct.asp
Funds (Funds Management & Refills)	Funds are managed through a separate Funds Server system. <i>This is only if using legacy meters, DMs and fund refill feature. NOTE: The BusMgr is not involved with the actual refill authentication process. It is only acting as a pass through.</i>	http://cometservm1.pb.com/T3cometserver_03.asp https://cometservm1.pb.com/T3cometserver_03.asp (Domain cometservp1.pb.com)
Manage Accounts (Accounting) Connect+ Interface (CPI)	Separate PB cloud that manages Accounting including Account Creation, Reports etc. This is required if using C+ machines.	Accounting Web Services: https://ms1app.pb.com/ms1atweb/services/
Funds Management If Using Pass Thru	For DM Series only, if doing on meter refills	Refill http://cometservp1.pb.com/t3cometserver.asp DLA http://pbdlst1.pb.com/prdupdate.dll Distributor http://distservp1.pb.com/dstproduct.asp DLA ftp ftp://dlsdlp2.pb.com DLA Confirmation Services
Uploading to Inview	If uploading data to Inview TMR	Inview upload http://acctservp1.pb.com/acctservice/default.aspx

3.5 Bandwidth Considerations

As with any application, Business Manager will consume some of the network's bandwidth. As network configurations and network traffic present an extremely large number of possibilities, Business Manager's exact impact on a particular network's traffic and bandwidth is difficult to predict. However, this section is intended to relate general bandwidth consumption metrics. The metrics are given for a Data Collector to Host and a DM Series Mailing System to Host. It is important to note that the metrics given are in bits per second (bps), not bytes per second (Bps).

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For the DM Series Mailing System to Host, the average bandwidth over time is about 3,000 bps.

For the Data Collector to Host, the average bandwidth over time is about 32,000 bps. There are “peaks” that should be considered for “worst case” considerations. The tables that follow relate raw data. Based on the customer’s specific network parameters, a scaling factor should be applied.

For systems with a large number of data collectors, Pitney Bowes Service will typically need to configure the timing of transaction uploading based on the specific workflow environment of the mail center to optimize performance.

3.5.1 For a Single DM Series Mailing System

EVENT	BANDWIDTH PEAK (bps)
Idling	1,000
Processing Mail	1,200
Initial Connection	46,000
Re-synchronizing 1,000 accounts	9,600

3.5.2 For a Single Connect+ System

For a Connect+ system, refer to the Connect+ Series Networking Technical Specification (SV62440) document for current specification information.

3.6 Local Mailroom LAN

A Local Mailroom LAN is a private network that is dedicated to operating and managing a mailroom operation at a single site. This network is managed separately from any corporate LAN that may be present at the site.

Pitney Bowes Service can provide support in setting up a Local Mailroom LAN. Static IP Addressing is recommended for Local Mailroom LAN’s due to its simplicity. If desired, the Business Manager Host Computer may serve as a gateway between the Local Mailroom LAN and a Corporate LAN or WAN by utilizing an optional second network adapter.

3.7 Corporate LAN

A corporate LAN is an existing network used to connect a company’s computers and is typically administered by the company’s IT department. Business Manager Computers and DM Series Mailing Machines may be networked using an existing corporate LAN.

3.8 Network Cabling

Standard CAT5 or CAT5e network cable that support 10/100 BaseT Ethernet communications can be used for all network connections. When connecting to a Pitney Bowes PC or network hub, the network cable must have an RJ45 connector. PB network cables come with RJ45 connectors on both ends. If using existing cabling, check the condition prior to installation; replace if necessary..

3.9 Network Hub

Pitney Bowes recommends that all network hubs support 100 Mbps network connections for optimal performance. Existing hubs with 10 Mbps network connections should be replaced.

Business Manager Configuration

4 Business Manager Configurations

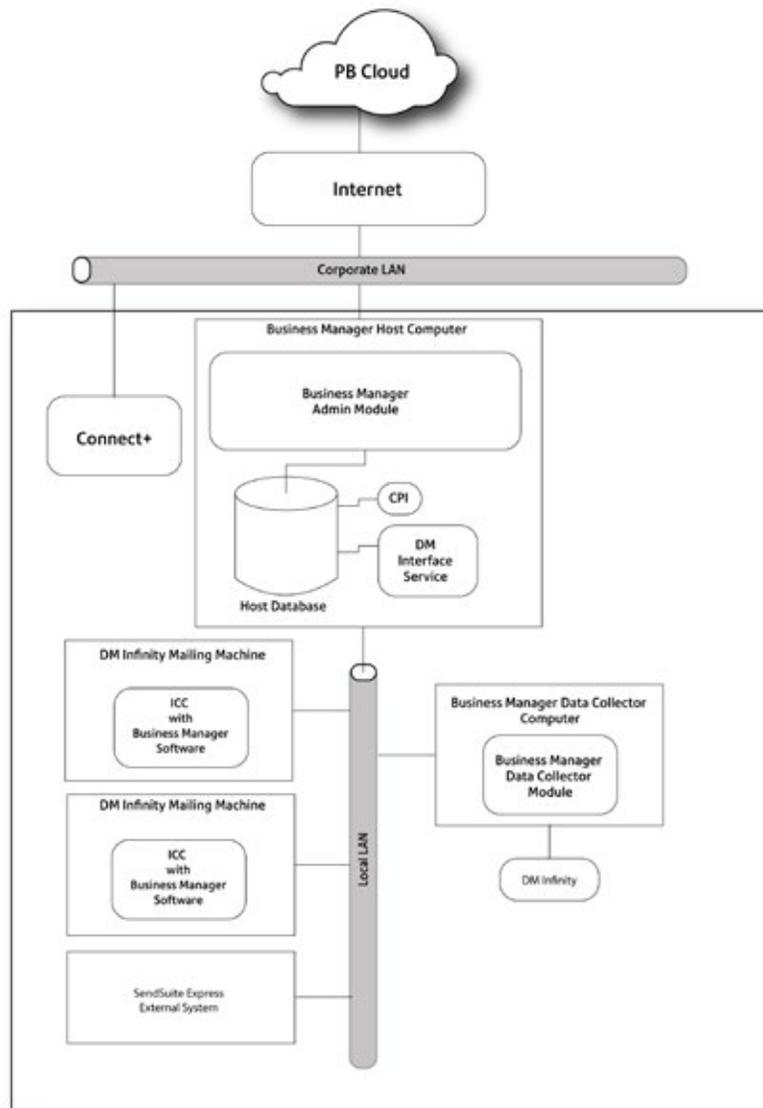
Business Manager may be deployed in various configurations as appropriate to best serve a customer's needs. This section describes a number of typical deployment configurations.

4.1 Single Site Configurations

Business Manager may be configured at a single site using either a dedicated mailroom LAN or an existing corporate LAN.

4.1.1 Local Mailroom LAN

In the Local Mailroom LAN configuration, the Business Manager Computers and the DM Series Mailing Machines are connected to a dedicated network used in a dedicated mailroom LAN. The Business Manager Host Computer may be connected to a Corporate LAN by using a second network adaptor.



Local Mailroom LAN Configuration

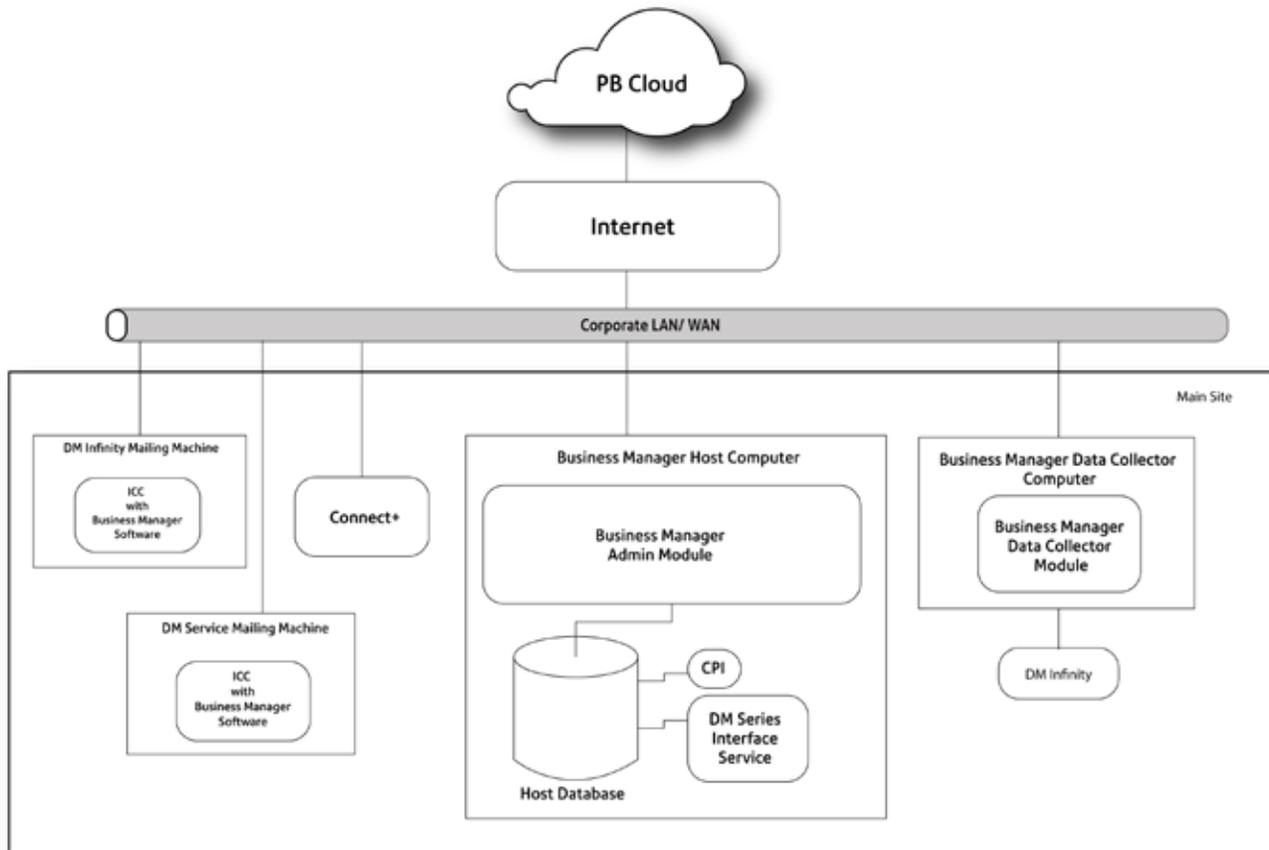
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4.1.2 Corporate LAN/WAN

In a single site corporate LAN configuration, the Business Manager Computers and DM Series Mailing Machines are connected directly to a Corporate LAN. The choice between utilizing a Corporate LAN or a dedicated Mailroom LAN will usually be made by the customer's IT organization. The Business Manager requirements for utilizing a Corporate LAN are:

- The LAN is configured and IP addresses are provided such that all Business Manager Data Collector Computers have access to the Business Manager Host Computer by IP address or domain name.
- All DM Series Mailing Machines have access to the Business Manager Host Computer by IP address.
- If using a Connect+, the Host PC and any C+ must have access to the internet in order to connect to the PC cloud.

Basic network connectivity may be tested using the "PING" command.



LAN/WAN Configuration

Business Manager Configuration

4.2 Multiple Site Configurations

Business Manager may be configured as an integrated solution with systems at multiple sites. These solutions may be configured with either a single Business Manager Host or with multiple Business Manager Hosts.

4.2.1 Single Host Multiple Site

A single host multiple site installation requires that the multiple sites be connected by a secure, reliable, high speed, always up, wide area network. Remote sites must be configured to be able to “PING” the Business Manager Host at the main site. In this configuration, there is a single Business Manager Host Computer that contains the Business Manager Host Database. All sites share accounts and all administration is done centrally at the main site or via an optional Administrative Workstation networked to the Host Computer. This deployment is conceptually the same as the single site corporate LAN configuration except that some Data Collector Computers or DM Series Mailing Machines are physically located at remote sites.

In the single host multiple site configuration, it is the responsibility of the customers IT department to supply and maintain the network connections from the remote sites and ensure their reliability.

4.2.2 Multiple Host Multiple Site Configuration (Host-to-Host [H2H])

In H2H multiple site configurations, each site has its own Business Manager Host Computer. The main site has a Business Manager Master Host Computer that contains the Master Host Consolidation Database. The Master Host Administration Module is used to define global accounts that may be used by any remote host and to view and report on consolidated data (including Funds Management information, if applicable) that is uploaded from all of the remote hosts.

An additional host may be appropriate for several reasons:

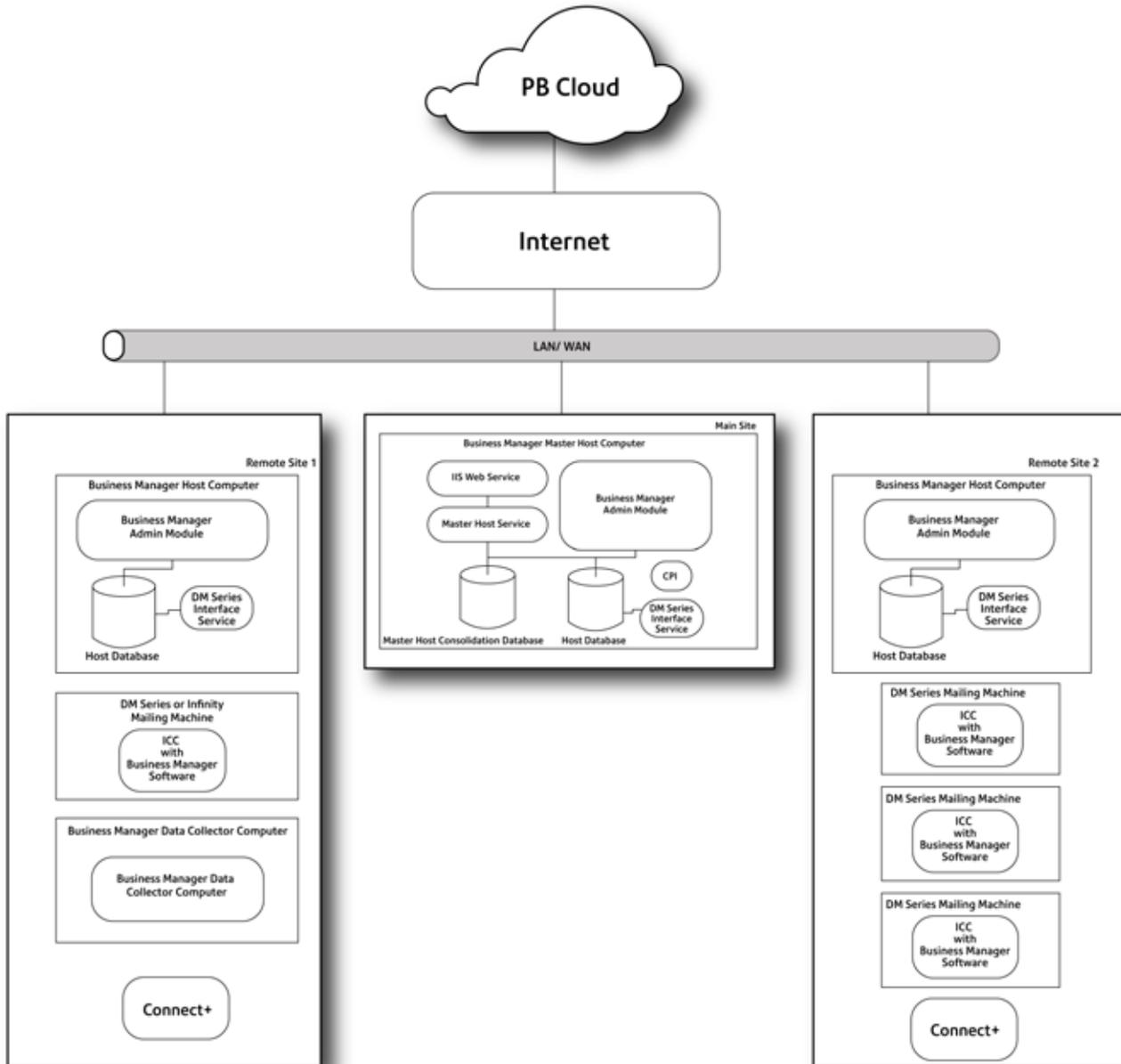
- The maximum number of devices supported on a host computer is exceeded,
- Network latency may cause an unacceptable level of meter offline conditions. If network latency exceeds 6 seconds the meter will initiate retry processes. If the connection is not reestablished system will go into offline condition and transactions locally stored. If this occurs frequently then it network conditions need to be analyzed and/or install a host on a in a location that does not have this latency.
- Each site, group or region of meters are managed separately from others. Account management is not shared across all meters. Then a host computer can be used to manage accounts and run report on meters attached to it. If such a management hierarchy is desired, multiple hosts provides a solution.

In this configuration, each site may function as a completely autonomous operation and yet provide consolidation to the master host site. A full-time network connection is not required. Remote hosts can either communicate via a corporate WAN or through a dialup connection. Local accounts may be defined at any site and used in addition to the global accounts.

Communication between remote sites and the master host is via HTTP over TCP/IP to a Web Service that runs on a web server hosted on the Master Host Computer. This form of communication is generally easier for an IT organization to support because it only requires a connection to port 80 on the Master Host. This simplifies issues with firewalls because access to port 80 is generally granted.

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In a multiple host configuration, a connection to the master host is only required to edit accounts, synchronize global data and upload transactions. The remote host always initiates communication to the master host and each remote host has its own synchronization schedule that can be defined as appropriate. Scheduling options include manual startup and shutdown of the Administration Module, whenever the Administration Module is idle for a period of time, or on a regularly scheduled basis.



Multiple Host Multiple Site Configuration (Host-to-Host [H2H])

5 Guidelines for Choosing a Business Manager Configuration

There are various factors to consider when designing a Business Manager Configuration. This section discusses a number of these factors and provides guidelines based on these factors.

5.1 Number of devices

A single Business Manager Host Computer can support up to 20 DM Series Mailing Machines or Business Manager Data Collector Computers connected to legacy mailing machines. For single site installations with 20 or less mailing machines a single host may be utilized. For installations with more than 20 mailing machines a multiple host installation is required and the machines should be distributed as evenly as practical on the multiple hosts. Pitney Bowes Service will typically need to configure the timing of transaction uploading based on the specific workflow environment of the mail center to optimize performance for systems with a large number of data collectors.

5.2 Autonomous Operation

The multiple host capabilities of Business Manager allow remote sites to operate autonomously while still providing a consolidated view of the enterprise from the Master Host. The remote sites are not dependent on the Master Host to be able to operate. A full-time connection to the Master Host is not required. This can simplify administration across multiple locations if personnel may not be available at all times at the Master site.

In a multiple host configuration, remote sites can report locally on their transactional mail data. Additionally, this data can be uploaded to the master host in near real-time so that the master host can report on consolidated data for the entire enterprise.

5.3 Global and Local Administration

Both global and local administration is offered in a multiple host configuration. This means that remote sites are free to define and use local accounts in addition to the accounts that are defined globally by the Master Host. Global accounts may be used on any host and accounts that are defined as local on a remote host may only be used on that host. Global accounts may be assigned surcharges that are applied enterprise wide whenever hosts charge to these accounts.

Other parameters including users, jobs and budgets are defined locally at a specific host. When using the Funds Management option, manual and automatic refills are initiated and managed locally. All data, whether local or global in nature, is uploaded to the Master Host Consolidation Database

and may be tracked globally for the enterprise.

5.4 Networking Considerations

When designing a Business Manager Configuration, a company's existing network infrastructure and policies play an important role.

5.4.1 Single Site

For a single site installation, the choice must be made between using a dedicated mailroom LAN and connecting to a corporate LAN. This choice is primarily made by a customer's IT organization based on their corporate policies. They may find it simplest to put the Business Manager Computers and DM Series Mailing Machines on their existing corporate LAN, they may have an existing LAN dedicated to their mailroom operations, or they may want to install a new LAN for the Business Manager system. When utilizing the Funds Management Feature, the dedicated mailroom LAN will require the use of the Business Manager pass-through service. In this configuration, all the refill requests will be directed through the Host computer, which will in turn have access to the Internet. If the configuration for corporate LAN is selected, then for Funds Management all of the Meters can have direct access to the Internet and the pass-through option does not need to be used.

All Business Manager Components may be connected to a standard Ethernet network with RJ45 connectors. Static or dynamic IP addressing through DHCP is supported. The primary Business Manager requirements are that the LAN must be configured so that all devices can communicate with the Business Manager Host Computer as may be verified with the "PING" command and that the IP address of the Business Manager Host Computer is fixed.

5.4.2 Multiple Site

If a customer has a corporate WAN that connects their office locations, they may consider a single host multiple site installation of Business Manager. This configuration is similar to the single site configuration on a corporate LAN. In a single host multiple site configuration, the customer is responsible for supplying a secure, reliable, always up, high speed connection to the Business Manager Host from remote sites and for allowing access through firewalls as described below.

The multiple host, multiple site configuration is very flexible and has less stringent networking requirements. In this configuration, the remote sites can operate independently whether or not a network connection to the Master Host Computer is available. This connection may either be a fixed WAN or simply a dialup connection. In a multiple host installation, communication is always initiated by a remote host and is to a web service running on the Master Host's Web Server. This communication is in the form of XML requests that are sent via HTTP over TCP/IP to port 80 on the Master Host Computer.

If dialup networking is used to communicate from remote sites or if full-time reliable connections cannot be provided, then a multiple host installation is required.

5.4.3 Firewalls, Ports and Protocols

This section provides more detail about the communication between Business Manager Components to help the customer understand the network access that must be allowed through any firewalls for Business Manager operation.

For Windows XP Professional SP2 Configurations: The standard image configuration has the Windows XP internal firewall, antivirus, pop-up blocker, and auto-updates disabled. This configuration streamlines installation and is appropriate for most IT environments. While most

Business Manager Configuration

organizations will configure a firewall on a network level, if the firewall capability is desired for the PC it can be enabled as long as the ports specified in section 3.2 are enabled.

5.4.3.1 DM Series Mailing Machines to Business Manager Host

DM Series Mailing Machines communicate with the Business Manager Host through XML messaging over a TCP/IP connection. These connections are always made from a DM Series Mailing Machine to port 6145 on the Business Manager Host Computer. This is configurable.

5.4.3.2 Business Manager Data Collector to Business Manager Host

Business Manager Data Collectors communicate with the Business Manager Host over TCP/IP via a SQL Server database connection using SQL Server Authentication. The connection is established from the Business Manager Data Collector to the Business Manager Host Database.

5.4.3.3 Business Manager Remote Host to Business Manager Master Host

Business Manager Remote Hosts communicate with the Business Manager Master Host using XML over HTTP via a TCP/IP connection to a web server at port 80 hosted on the Business Manager Master Host Computer. This connection is established from the Remote Host to the Master Host. Also used is ftp port 21 for synchronization files.

5.4.3.4 Business Manager Host to SQL Server

A Business Manager host communicates with SQL Server over TCP/IP via a SQL Server database connection using SQL Server Authentication. The connection is established from the Business Manager Host to the SQL Server Database.

5.4.3.5 Business Manager Funds Management

Funds Management requires access to the Internet so that the DM Series Meters can communicate with the Pitney Bowes Server to process refill requests, upload confirmation services data, download software and rate updates, and perform other services. DM Series Mailing Systems require Port 80 (HTTP) and Port 21 for FTP open for communications to Pitney Bowes servers. Port 80 is used to communicate XML formatted messages requesting services from our postal and services related servers. Port 21 is used to transmit new software and graphics to our control center. For the communication between Host and meters, ports 6998 and 6996 are required.

The IntelliLink Control Center provides data security during sensitive data transmissions. While connecting to a Pitney Bowes server for postage refills, the control center uses public and private keys to authenticate the control center and authorize the refill information.

If unrestricted outbound access is not allowed in your organization, then, network access to Pitney Bowes servers is accomplished by allowing outbound HTTP(80) and FTP (21) access to 199.231.32.0/20 through your firewall.

5.5 Database Considerations

Business Manager is provided as a complete, turnkey system and includes a fully licensed version of SQL server in Version 5 or greater – Microsoft SQL 2008 Express Edition. Microsoft SQL Server 2000 Desktop Engine (MSDE) and SQL 2005 were included in earlier versions. SQL Server Express supports databases of up to 4 Gigabytes (MSDE supports up to 2 Gigabytes).

Business Manager does support connecting to a SQL Server 2000 remote and 2005 Databases instead of SQL Express. In this deployment, the SQL Server 2000 or 2005 Microsoft License and Database must be supplied and administered by the customer.

A standard Business Manager Host or Business Manager Master Host may be upgraded to use a

customer supplied SQL Server 2000 or 2005 at any point.

Refer to the Business Manager SQL Server Database Technical Information and Configuration Considerations Whitepaper for more information on the SQL Server configuration.

6 Additional Information

6.1 Business Manager Computers and Operating System Considerations

The Business Manager Host and Business Manager Data Collector Computers are provided as turnkey systems that are fully equipped and preconfigured by Pitney Bowes. These computers are imaged by Pitney Bowes with the Operating System and all software required by Business Manager except for Anti-virus software. As of February 1, 2006 all new systems are shipping with the Windows 7 Operating System. All computers interfacing to a single host must utilize the same Business Manager Software version.

6.2 Virus Scanning Software

Virus Scanning Software is not provided with Business Manager Computers. It is, however, required that customers equip and maintain each Business Manager Computer with virus scanning software. Pitney Bowes is not responsible for any problems caused if computer viruses infect Business Manager Computers or other computers on the network. Pitney Bowes does not install virus-scanning software due to the fact that most customers have specific policies regarding the type and exact specifications of the software that needs to be provided on their computers.

As virus scanning typically results in a deterioration of system performance, we recommend that system scans be scheduled for off-peak times.

Please note that the Business Manager application is periodically tested with McAfee Anti-Virus software.

It may be necessary to temporarily disable anti-virus during install.

6.3 E-Mail Software

Business Manager can be configured to e-mail reports using Lotus Notes, Microsoft Outlook, or MAPI e-mail software. Customers are responsible for installing and maintaining the e-mail software application and network access.

6.4 Power Protection

Electrical shock and abrupt system shutdowns can result in damage to personal computer components and/or data. Therefore, it is required that customers equip each Business Manager Computer with an Uninterruptible Power Supply (UPS) to provide surge protection and facilitate controlled system shutdowns.

6.5 Data Backup

To avoid data loss, it is highly recommended that data be backed up on a nightly basis. The Business Manager Host application can be configured to backup its databases via a task scheduler or manually. If advanced data backup capabilities are required, upgrading to the SQL Server Edition is recommended.

Business Manager Configuration

The task scheduler can be configured to backup to any drive. If on a corporate LAN, backups to a network drive are recommended. If on a standalone LAN, backups can be configured to write to the included DVD drive or to alternative backup devices such as tape drives, USB hard drives, or USB flash drives. If backing up to a DVD, DVD must be formatted.

6.6 Security and Authentication

All Business Manager Computers use a standard Windows login and the associated authentication to login into the computer. All Business Manager Applications require operators to log in with a user name and password. It is assumed that the customer's IT handles network security.

Note: The user must have local admin rights to run the BusMgr application.

Included in the Business Manager Applications are: the Business Manager Administration Module, the Business Manager Data Collector Module, and the Business Manager Software embedded in the DM Series Mailing Machines. All transactions that are recorded by Business Manager include the identifier of the operator who has logged in. Business Manager offers three personnel levels of security to protect the integrity of transaction information including: 1) Manager/Supervisor, 2) Operator and 3) Report User.

Access to the SQL Express database is restricted through the use of SQL Server Authentication.

6.7 Funds Management Feature Option

Funds Management is an optional feature available with Business Manager Version 5 or greater systems. It will allow a manager to set refill parameters to automatically refill a DM Series meter or meters, to refill meters on demand, and to view and report on refill history and meter activity in real time. It also provides access to all of the following IntelliLink® functions through multiple connection alternatives.

- Uploading Tracking Services (Delivery and Signature Confirmation, E Certified),
- Postage by Phone® (refills, exclusive payment options),
- USPS and Carrier Rate Updates (instant access to updated rates, ZIP Code changes, new Classes),
- Instant System Updates (Annual or Semi-Annual Version Changes),
- E-Return Receipt (Electronic record of delivery),
- Turning on Features Remotely, and
- IntelliLink® Information and Electronic Inspection.

The Funds Management feature utilizes one of the following connection types to perform meter fund refills and connect to the Pitney Bowes® infrastructure:

- Dial up using a PC Pass-Through Server - The Host PC, DM Series™ and/or DM Infinity™ meters are on a private or corporate network. The Business Manager Host PC is connected to Postage By Phone® through a dial up modem. The Business Manager Host becomes the single access point to Postage By Phone®.
- LAN with a PC Pass-Through Server - The Host PC, DM Series™ and/or DM Infinity™ meters are on a private or corporate network. The Business Manager Host becomes the single access

point to Postage By Phone®.

- LAN without a PC Pass-Through Server - The Host PC, DM Series™ and/or DM Infinity™ meters are on a private or corporate network. Any of these can access Postage By Phone® independently.

6.8 Software Only

The Business Manager system can utilize customer supplied PCs or software images for the Host, Remote Host, or Administrative Software. Modifications have been made to incorporate required applications into the install. Software only does not apply to data collectors. The following information details the prerequisites that are necessary for a successful install.

6.8.1 Software Only Hardware Requirements

The Business Manager application can be installed on the customer's PC, provided that the PC meets the following minimum hardware requirements:

IMPORTANT:

- The software-only installation process can be performed on a PC if it will be used as a Host or Administrative/Reporting PC.
- Data Collectors must remain on Pitney Bowes hardware.
- You must have local administrative rights to install and run the software-only option on the customer's PC.

HARDWARE FEATURE	HOST PC INSTALL
	Minimum
Processor	Intel® Core™ i3 processor or equivalent
Speed (GHz)	3.3
Memory	8 GB
DVD+-RW DRIVE	Required
Ethernet Adapter	Required
56K Modem if using features requiring dialup connectivity	Depends on Network configuration

6.9.2 Software Only Software Requirements

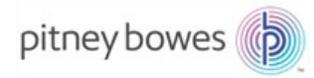
The following must be installed on the PC prior to installing the application:

- Windows 7 Professional
- MSMQ (Message Queuing needed for Host PC only)
- Internet Explorer 8.0 (minimum)

The following applications will be installed during the course of the Business Manager installation process, if they are not already present on the PC:

- Adobe® Reader® 7.0.8
- MSXML 6.0 SP1
- Soap Toolkit 3.0
- Microsoft™ SQL Server 2008 R2 Express

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