Service Manager 9.20
Reference Configurations
Sizing Guide

Introduction

This document provides reference configuration data that you can use to help plan an HP Service Manager 9.20 implementation. In order to plan a successful implementation, you should be familiar with the deployment and configuration of the HP Service Manager applications, Runtime Environment (RTE), and web tier, as well as the operating system and RDBMS that will be used.

The reference configuration data supplied in this document is based on the Service Manager 9.20 out-of-box environment, including the web tier and the Knowledge Management search engine running on top of the Service Manager 9.20 RTE. Customized implementations may see an increase in the amount of resources utilized or needed for the application to perform in an acceptable manner.

> You should consider these recommendations to be the minimum requirement to run Service Manager.
>
> Failure to test the application with the concurrent user load and transaction rate that is expected at the height of the daily system usage while utilizing the tailored application may result in an undersized environment to support customer requirements.

Service Manager 9.20 Sizing Questions

This list provides the basic information you will need in order to be able to recommend overall system architecture to support the Service Manager environment.

1. What kind of environment do you expect?

    a. Do expect to use an in-house solution administered by internal IT?
    b. Do expect to use an in-house solution administered by HP?
    c. Do expect to use software as a service?

2. What hardware and software environment do you expect?

    a. Do you plan to operate in separate development/test/production environments in order to assure quality?

    > HP recommends that you use separate development, test, and production environments.

    b. What are your disaster recovery and high availability requirements?
    c. Do you plan to operate in a virtualized environment or on physical machines?

3. Do you have existing hardware that you want to reuse?

    a. What operating system (OS) is on that hardware?
    b. Is the OS 32 or 64 bit?
    c. How many CPU's per machine?
    d. How much RAM per machine?
    e. What RDBMS?

4. Please provide a diagram of your network with minimum latency and bandwidth values.

5. Please provide a Microsoft Visio™ diagram of your intended deployment. (See the [Sample Service Manager Deployment Diagram](#).)

6. Which integrations do you plan to employ with HP Service Manager?

    a. Will you set up inbound/outbound email, SMTP/POP3?
    b. Will you set up active directory (LDAP) integration or single sign-on?
    c. Will you do import data about people or organizations from an HR or other environments?
    d. Will you integrate to a Universal Configuration Management Database (UCMDB)/Content Management System (CMS)?
    e. Will you integrate to other HP Software solutions?
    f. Will you import configuration items (CI's)?
    g. What else?

▶ The information in 7-12 is not required for sizing of the environment but is very useful.

7. What are your licensing requirements?

    a. Will Service Catalog be part of the configuration?
    b. Will Knowledge Management (KM) be part of the configuration?
    c. How many KM users do you expect, including authors, editors, and administrators?
    d. Which language/languages do you expect to operate?
    e. How many IT specialists do you expect, including technicians, administrators, and helpdesk personnel?
    f. How many of them should have guaranteed access to Service Manager? (Named Users)
    g. What are your module level user requirements for Service Manager?

8. Which will be the primary client?

▶ HP recommends the web client for user access.

9. What is the potential number of Self-Service users that will need to access the software? (Use the calculation in the Rules of Thumb for Self-Service users to calculate concurrency.)

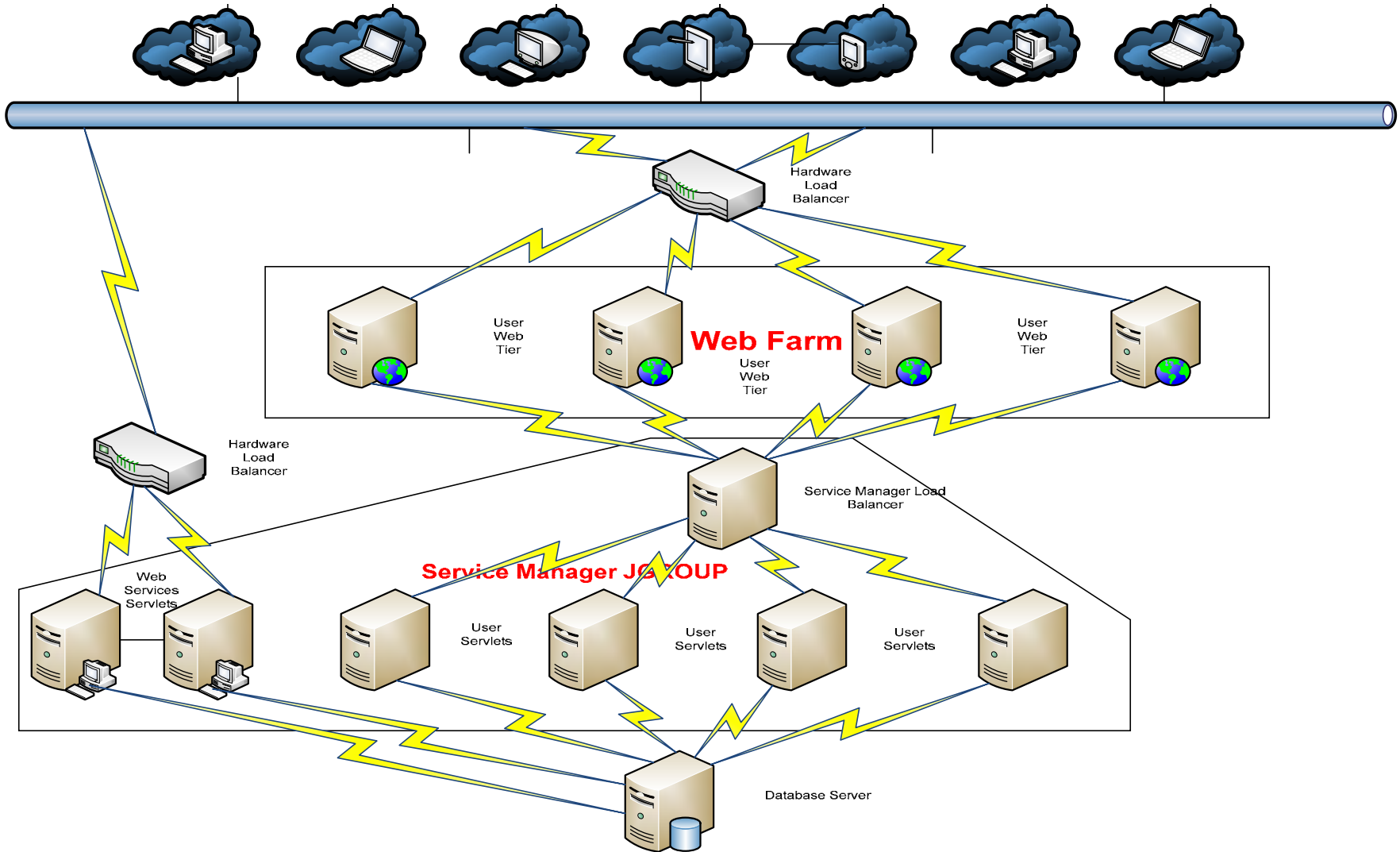10. What is the geographical breakdown of your web user-base?

11. What are your expected data volumes for the modules below, including attachments?

    a. Service Desk
    b. Incident Management
    c. Change Management
    d. Problem Management
    e. Knowledge Management
    f. Request Management
    g. Configuration Management
    h. Service Level Management

12. What are your reporting requirements?

    a. Will you use the bundled Crystal Reports solution?
    b. Will you use an external reporting solution?
    c. Will you use data replication into a data warehouse for reporting?

Sample Service Manager 9.20 Deployment Diagram

Hardware Load Balancer

Web Farm

User Web Tier

User Web Tier

User Web Tier

User Web Tier

Hardware Load Balancer

Service Manager Load Balancer

Service Manager JGROUP

Web Services Servlets

User Servlets

User Servlets

User Servlets

Database Server

Service Manager 9.20 Reference Configurations

Application server

HP used the listed hardware to obtain the memory and CPU minimums.

> This list is not a recommendation, only a guideline.

Small

<200 concurrent users

Windows/Linux

    Service Manager: HP DL360 – 2 CPU cores, 8 GB RAM, 36 GB HD

    RDBMS: HP DL360 – 2 CPU cores, 8 GB RAM, 2 x 36 GB RAID

Medium

201 – 600 concurrent users

Windows/Linux

    Service Manager: HP BL460c – 4 CPU cores, 16 GB RAM, 36 GB HD

    RDBMS: HP DL585 – 2-4 CPU cores, 12 GB RAM, 3 x 36 GB RAID

UNIX

    Service Manager: HP RX6600 – HP-UX 11i, 4 CPU cores, 16 GB RAM, 36 GB HD

    RDBMS: HP RX6600 – HP-UX 11i, 2-4 CPU cores, 12 GB RAM, 3 x 36 GB RAID

Large

601 – 1,000 concurrent users

Windows/Linux

    Service Manager: HP BL460c – 8 CPU cores, 32 GB RAM, 36 GB HD

    RDBMS: HP DL585 – 4-8 CPU cores, 16 GB RAM, 3 x 36 GB RAID

UNIX

    Service Manager: HP RX6600 – HP-UX 11i, 8 CPU cores, 32 GB RAM, 36 GB HD

    RDBMS: HP RX6600 – HP-UX 11i, 4-8 CPU cores, 16 GB RAM, 5 x 36 GB RAID

Web tier

400 concurrent users ([See Rules of Thumb](#).)

   Windows/Linux

      HP DL360 – 2 CPU cores, 6 GB RAM, 36 GB HD

   UNIX

      HP RX2600 – HP-UX 11i, 2 CPU cores, 6 GB RAM, 36 GB HD

Help server

   HP DL360 – 2 CPU cores, 2 GB RAM, 36 GB HD ([See Rules of Thumb](#).)

Load balancer server

   HP DL360 – 2 CPU cores, 2 GB RAM, 36 GB HD ([See Rules of Thumb](#).)

Knowledge search engine server

Small

   <200 concurrent users

   Windows/Linux

      HP DL360 – 1 CPU cores, 2 GB RAM, 36 GB HD

   UNIX

      HP RX2600 – HP-UX 11i, 1 CPU cores, 2 GB RAM, 36 GB HD

Medium and large

   >200 concurrent users

   Windows/Linux

      HP DL360 – 2 CPU cores, 4 GB RAM, 36 GB HD

   UNIX

      HP RX2600 – HP-UX 11i, 2 CPU cores, 4 GB RAM, 36 GB HD

Rules of Thumb

Application server (servlet container)

A servlet container requires approximately 2 GB of RAM:

- 500 MB JVM requirement including the 256 MB of default Java heap
- 50 MB for the process overhead
- 10 – 20 MB per users session (thread)

Increases in user session memory usage can be caused by inappropriately large global lists, usage of global variables that are not cleaned up, and multiple application threads being opened simultaneously. This will have a direct effect on the number of user threads that can be supported per servlet container.

- The value of the shared_memory setting in the *sm.ini* file. (counted only once for all servlet containers on a single machine)

For 32 bit UNIX operating systems, start with 50 threads (users) per process (servlet container) and then adjust based on process memory usage in your environment.

For 32 bit Windows operating systems, start with 30 threads (users) per process (servlet container) and then adjust based on process memory usage in your environment.

For 64 bit operating systems, start with 50 threads (users) per process (servlet container) and then adjust (maximum of 100 threads) based on the actual process memory usage in your environment.

This is valid for all 64 bit operating system platforms designated in the Service Manager compatibility matrix.

Web tier

A typical Service Manager 9.20 web tier production configuration might be based on Tomcat with four JVMs. You should allocate 1.2 GB of RAM of Java heap for each JVM. Configure an Apache web server in front of Tomcat for load balancing connections to each of the Tomcat JVMs. Add additional machines to the web farm as necessary to handle the Tomcat load.

Self-Service/Catalog

Be sure to include the Self-Service/Catalog user-base when calculating the hardware requirements for supporting the environment. Expect the number of concurrent users to be 2-3% of the project total number of users. For example: 200,000 total user-base * .03 = 6, 000 total number of projected concurrent Self-Service/Catalog users.

Help server

The Service Manager 9.20 help server must be deployed in a Windows environment but can be configured to run on one of the machines configured or accessible by using the web tier. It can also be configured to be on a standalone machine using a small machine configuration.

Load balancer

Put the Service Manager load balancer on a separate machine with the same operating system as the Service Manager application server. Size it as a small machine since all it does is redirect connections to an available servlet.

In a horizontally scaled configuration, load balancer is the sole single point of failure in the server tier. For high availability, you should replicate it and place it in a clustered environment. Load balancer failure only affects new user connections. It does not affect active users currently logged in. New users will be able to connect once the load balancer is restarted or failed over to a backup server.

Use the server sizing in this document for load balanced servlet machines. Adjust the number of nodes based on the size of the machine and the total number of concurrent users in the production system.

RDBMS server

The RDBMS server sizing specified above is based on the configurations HP used during benchmarking runs. Base the plans the storage needs of production environment servers on expected data volumes including attachments. Base the CPU and memory requirements on the recommendations of the database vendor for the expected transaction volumes.

Virtualized environment (VMware)

To run Service Manager efficiently in a virtual environment, you must add approximately 30% to the sizing recommendations in this document.

> Service Manager does not support VMware VMotion.

Please visit the HP Management Software Support web site at:
http://www.hp.com/managementsoftware/support

This web site provides contact information and details about the products, services, and support that HP management software offers.

HP Management Software online software support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued customer, you can benefit by being able to:

- Search for knowledge documents of interest
- Submit and track progress on support cases
- Submit enhancement requests online
- Download software patches
- Manage a support contract
- Look up HP support contacts
- Review information about available services
- Enter discussions with other software customers
- Research and register for software training

> Most of the support areas require that you register as an HP Passport user and sign in. Many also require an active support contract.

To find more information about support access levels, go to the following URL:
http://www.hp.com/managementsoftware/access_level

To register for an HP passport id, go to the following URL:
http://www.managementsoftware.hp.com/passport-registration.html

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