

## *Q-flow 3.0: Sizing*

Manual code: Qf304007ENG  
Version: 1.0  
Applies to: Q-flow 3.04  
Latest revision: 22/6/2009

Q-flow 3.0

# Sizing

---

© Urudata Software  
Canelones 1370 • Piso 2 CP11200  
Montevideo, Uruguay  
Phone: (598 2) 900 76 68 • Fax: 900 78 56

# Table of Contents

Infrastructure requirements .....	4
Requisites prior to installation .....	4
Sizing .....	5

## Infrastructure requirements

Q-flow 3.0 requires:

- A relational database manager:
  - o SQL Server 2005 or later (recommended: Enterprise Edition).
  - o Oracle 9i SR2 or later on a Microsoft or Unix platform
- Mail transport, one of the following:
  - o Exchange Server 5.5 or later
  - o Notes R5 or later
  - o Groupwise 5 or later
  - o Generic SMTP
- Web site
  - o Internet Information Server 5.0 or later (recommended: IIS 6.0)
- Support services, one of the following:
  - o Windows 2003 Server or Windows 2008 Server
  - o Windows 2003 Enterprise or Windows 2008 Enterprise (recommended)

## Requisites prior to installation <sup>1</sup>

- There be an account in the database server enabling the creation of databases (SQL Server) or schemas and users (Oracle).
- Create a Windows 2003/2008 account with enough permissions to act as a service. It must have the following permissions: Log on as a service and Log on locally. In addition to that, the following advanced permissions are recommended: Act as a part of the operating System and Log on as a batch job.
- The .Net Framework 3.5 must be installed in all clients where Q-flow tools will be installed and also on the Q-flow server.
- Web server must have ASP .Net 2.0.
- In order to send notifications:
  - o SMTP
    - A mail account must be provided for the service.
  - o Exchange
    - Create a mail box for sending mail. This mail box must be associated to the account created in the previous step (this only applies if Exchange is being used).
    - CDO components must be installed in the server that will run the Q-flow services.
    - Instalar Componentes CDO en el equipo que corra los servicios de Q-flow
    - Create a mail profile in the profile of the user and associate it with the mail box created in the second step (required for Simple MAPI).

---

<sup>1</sup> More information on installation requirements are available in the installation manual

## Sizing

The sizing of the Q-flow supporting systems must be done to a great extent based on the sizing of the system software that is being used (relational database, internet server and messaging server).

When users from outside the organization use the Q-flow web site, a complementary security infrastructure must be used. For example, a firewall and security mechanisms such as digital certificates may be used so that the web site is secure. Such mechanisms usually involve an additional load on the server's processing capabilities.

As for storage space on disk, Q-flow requires the following:

- Storage on system disks: 200MB
- Storage of relational database structures: it is recommended to have an available space of 10GB.
- Growth of the database:
  - Variable; an average of 10kb per workflow.
  - Storage in the attachments repository: the size of the attached files plus 40% for structures and indexes (if no full-text search capabilities is used, instead of 40% it is 2%).

Please note that, regarding the space necessary on disk, besides the aforementioned aspects, space for backups must be taken into account (for example, storage space for the transaction log). This is not taken into account in the data mentioned above, since it depends on the backup policy of each organization and on the database engine in use.

For more information on these aspects, see the database engine's manual.

Examples of sizing of the Q-flow server:

Users	Workflows started per day	Duration of processes	Web server in same computer	Database in same computer	Recommended setup
10	10	1 week	Yes	Yes	PIV-2GHz, 1GB RAM
100	100	1 week	Yes	Yes	PIV-2GHz, 1GB RAM
100	1000	1 week	Yes	Yes	PIV-2GHz, 2GB RAM, RAID disks subsystem
1000	1000	1 week	No	No	PIV-2Ghz+, 2GB RAM

In cases in which there is very little interaction, as on the initial implementation stages or implementations with a low work load, it is recommended to implement Q-flow as a service additional to the existing infrastructure.

If the number of simultaneous active workflows is larger than 20000, it is a good practice to separate the engine services and use specialized servers for processing workflows, message queues and time control. This setup requires specific sizing performed in the factory.