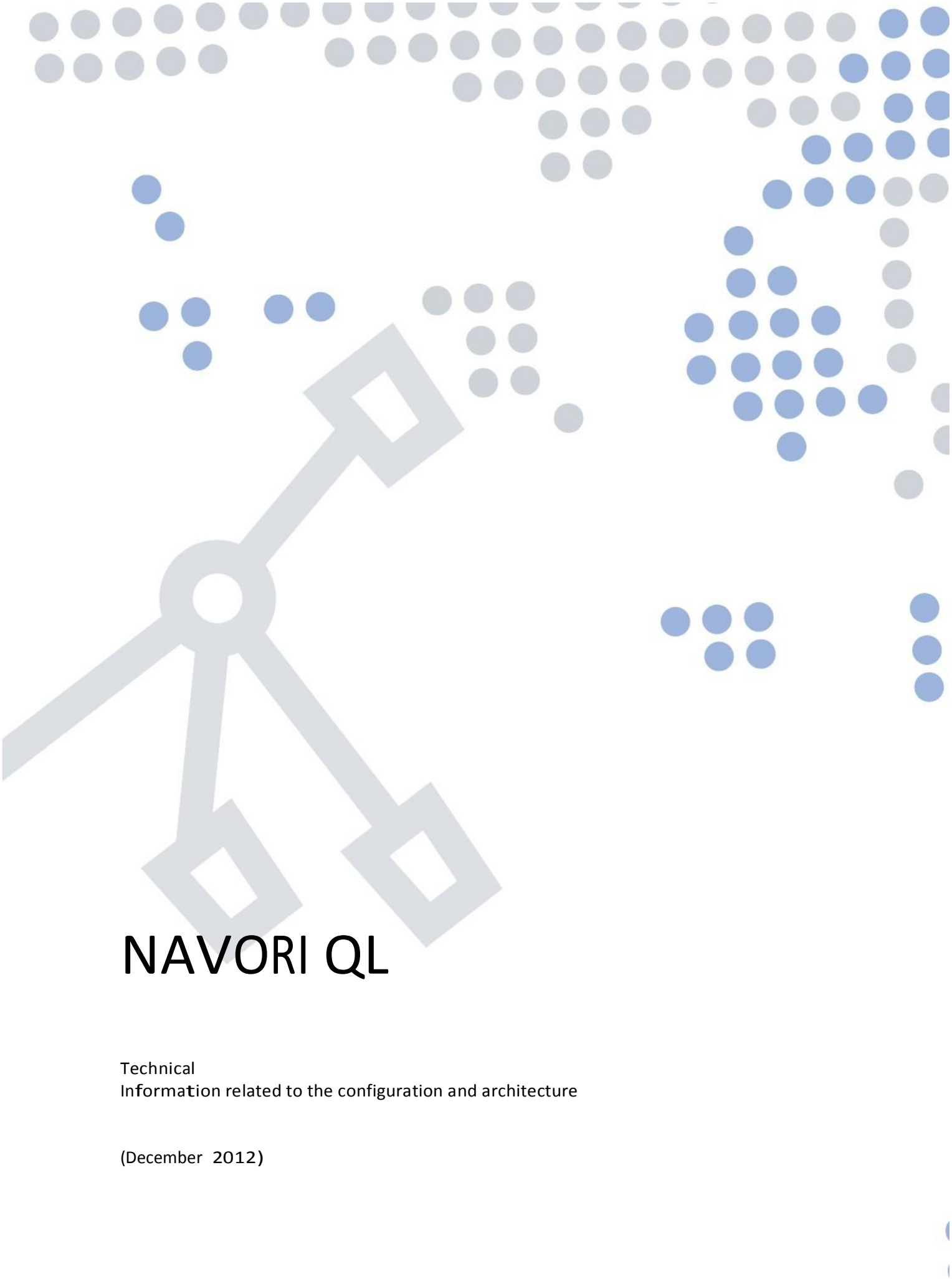

NAVORI QL

Technical
Information related to the configuration and architecture

(December 2012)

Navori QL Server

Navori QL is composed of two main modules:

The Navori QL Server module is installed either on a Windows Server or on a regular Windows PC. It operates as a background service and stores all of its information in a local or networked database.

The scheduling and program management interface is called QL Manager. It is accessible with any Silverlight-supported Web browser on Windows, Mac or Linux-based computers.

Information related to content management and scheduling is stored in a Microsoft SQL database. It can be located either on the server itself or on a remote system.
Content is not stored in the database, but on the server's file system (i.e. hard drive). It can be stored either locally or on a remote system.

The Communication between the Server, Manager and Player is managed through HTTP or HTTPS. The port number can be standard or manually defined.
Both proxies with active directory and proxy authentication are supported by QL Server and Player.

What hardware configuration and architecture?

	IIS Server				
	Windows 8 (Professional, Enterprise), Windows 7 (Professional, Ultimate)	Windows Server (2008 R2, 2012)	RAM	SQL (2005, 2008, 2012)	SQL on dedicated server
< 10 players	1		4Gb	Express	
< 25 Players	-	1	8Gb	Express	
< 50 Players	-	1	12Gb	Standard	
< 100 Players	-	1	16Gb	Standard	
< 250 Players	-	1	32Gb	Standard	16GB
< 500 Players	-	2	48Gb	Standard	32Gb
< 1000 Players	-	2	64Gb	Enterprise	48Gb
< 1500 Players	-	3	76Gb	Enterprise	48Gb
< 2000 Players	-	4	96Gb	Enterprise	96Gb

Load Balancing: The server can work in a Windows Network Load Balancing (NLT) load balanced environment. This Architecture requires a license for Navori QL Server and one QL Server LB license for each additional IIS Server machine.

Navori QL Player

Navori QL Player is a software application installed on a PC connected to the screen. This software communicates with the central QL Server via HTTP.

1. The QL Player software is optimized for Windows 7.
   Domain connection is optional.

2. The software includes three components:
   1. QL Playback engine, dedicated to content rendering;
   2. QL Conductor, a service in charge of communications with the server. Its main tasks are as follows:
      a. Launch the Engine, and monitor its status;
      b. Re-launch the Engine, if an unexpected shutdown is detected;
      c. Inform the server that the player is alive, and its playback status, for monitoring purposes;
      d. Receive (download) from the server Content and Scheduling updates;
      e. Process and send regular Playback Reports to the server;
      f. Retrieve and send to the server relevant Events and Alerts;
      g. Download and automatically initiate QL Player software updates.
   3. QL Guard is conductor's watchdog

Network Bandwidth usage between QL Player and server

Organic bandwidth usage includes exchanges between the Server and its Players for day-to-day operations. It includes monitoring, and playback reporting.

With default settings, based on 24x7 operations for 30.5 days, QL Player uses 450Mb of bandwidth based on the default connection frequency to QL Server (15 seconds)

Should the connection frequency be lowered to one minute, the bandwidth use would be 135Mb / month. Should it be lowered still to 30min, the bandwidth usage would be 19Mb.

Content bandwidth usage includes new content (e.g. media) sent to the players, RSS/XML feeds synchronization, as well as the playback of any content this is not Download-and-Play (e.g. HTML, video streaming, …)

QL Player downloads only new content from QL Server. For estimates calculation purposes, add to the organic usage amount only the volume of data planned to be used by each player.