

Introduction

This document outlines the components required to set up a hosted solution, as well as details on how to set up each component. There are two major components:

1. **Geotab Checkmate Web Server (Proxy and Data Processing)**
2. **Checkmate Database Server**

These two components are set up at the dealer's location. It is not strictly necessary to have a dedicated machine for each component; however server requirements vary substantially depending on the number of customers, fleet size, number of zones/exception rules, etc. You must take into account the amount of data being hosted, and the strain that each component will apply to the server when selecting your hardware configurations. The two components can be run simultaneously on a single server, provided the hardware is sufficient.

Minimum Requirements

The following pre-requisites are required to implement a hosted solution for your customers:

1. A dedicated server running Microsoft Windows Server 2003 or later. This machine should have at least 2GB of RAM, a 1GHz Processor, and 60GB of available hard disk space.
2. Microsoft SQL Server 2005/2008 Standard or Enterprise Edition.
3. A high-speed internet connection.
4. Checkmate 5.3.1 build 9720 or higher

Components

[Geotab Checkmate Web Server](#)

The Checkmate Web Server acts as a gateway to the hosted database. Connecting to the database through the Web Server, allows the user to seamlessly pass through most corporate firewall configurations. The Checkmate Web server works by accepting a connection from Checkmate on port 443(https). The Web Server then establishes a connection with the hosted database on the local network, allowing for two-way communication between the database and Checkmate. The Checkmate Web Server acts as a processing server that will process all of the data in your hosted databases. In addition, it will also download data for all hosted live vehicles, and upload data into the corresponding database. Each database is processed by the single Checkmate Web Server. The checkmate web server must be installed on a server which is not running any applications listening on TCP port 80 and TCP port 443.

Checkmate Database Server

The Checkmate database server will store customer's data on a server remote from the customer. An entry level server running Windows Server 2003 or greater will be sufficient in most cases (see Minimum Requirements). For improved performance, it is recommended that the server utilize multiple disk drives (at least 2) in a RAID configuration.

The Checkmate database server must have Microsoft SQL Server 2005/2008 Enterprise or Standard Edition installed. **SQL Server Express is compatible, although each database must be monitored and cannot exceed 4GB.**

Installation

1. To install the Checkmate Web Server, follow the steps below
 - i. Launch Checkmate 5.3.1 from <http://www.geotab.com>
 - ii. Click Administration→Options
 - iii. Select the Services tab
 - iv. Click the checkbox for "Enable Web Server" and click OK
 - v. A folder called 'Host Config' will be created. In addition, 'Application.config' and 'Security.config' files will be created.

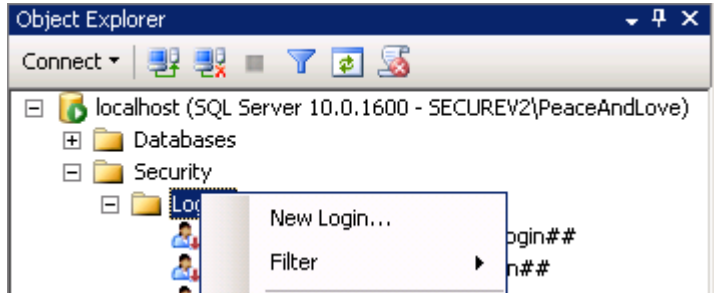
Vista/Server 2008

C:\ProgramData\GEOTAB\Checkmate\Host Config
C:\ProgramData\GEOTAB\Checkmate\Security.config
C:\ProgramData\GEOTAB\Checkmate\Application.config

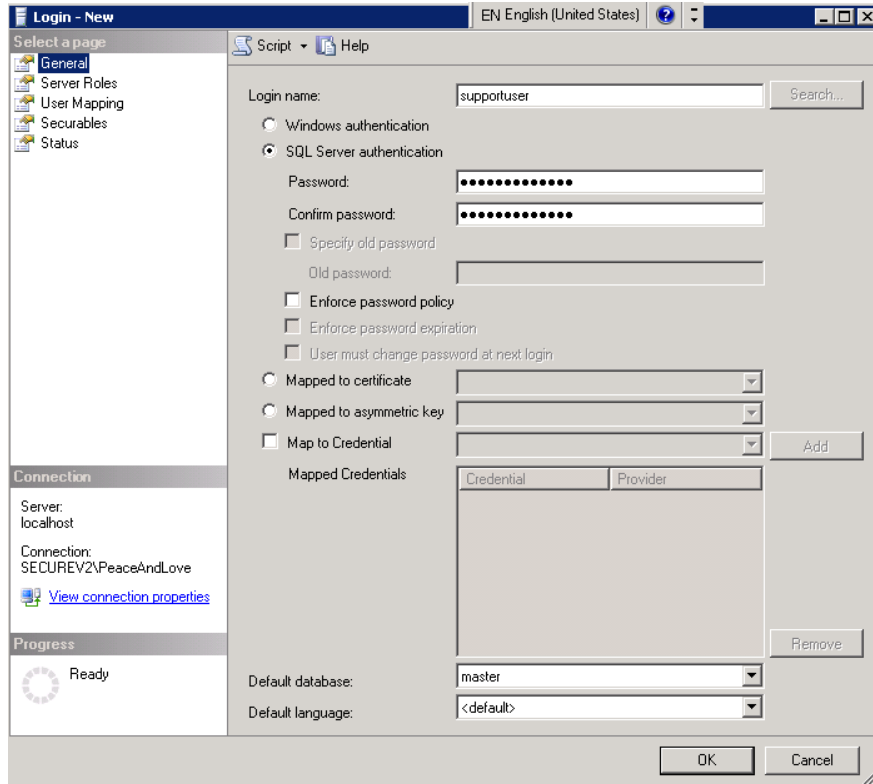
XP/Server2003

C:\Documents and Settings\All Users\Application Data\Geotab\Checkmate\Host Config
C:\Documents and Settings\All Users\Application Data\Geotab\Checkmate\Security.config
C:\Documents and Settings\All Users\Application Data\Geotab\Checkmate\Application.config

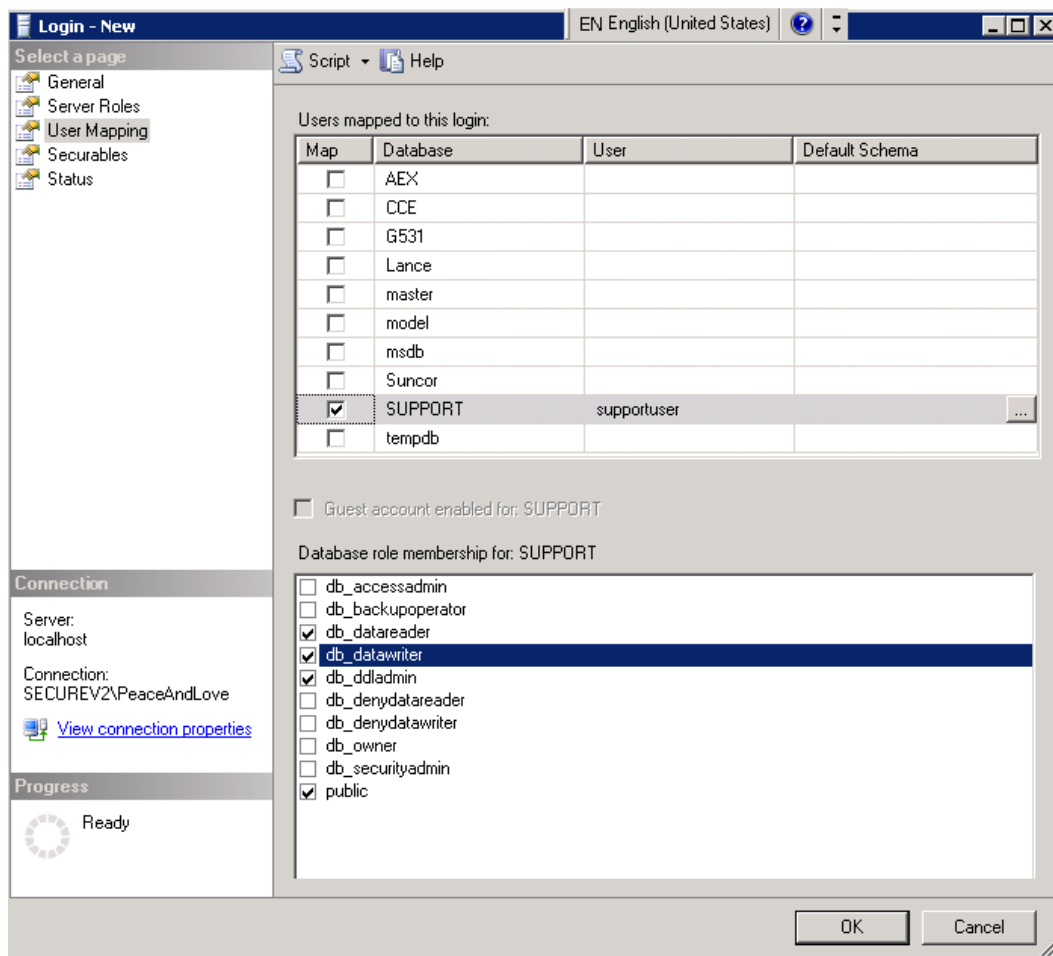
2. Run the Checkmate Application and create a new SQL database
 - i. On the Checkmate Main Form, click Change
 - ii. Click administration→Create Databases. Enter the server name and use windows authentication
 - iii. Click OK to login to checkmate
 - iv. Exit checkmate completely
- 1) Download and install SQL Server Management Studio'(if not already installed) and create a SQL login for the database by following steps below
 - a. Click '+' beside Security to expand. Right click on 'Logins' and click 'New Login'



b. Under General View, Remove 'Enforce Password Policy'



- c. Click on 'User Mapping' in the left pane.
 Click on the Checkbox under the 'Map' column to restrict access to a specific database.
 Add the following database role membership for the specific database and click OK
- i. db_datareader
 - ii. db_datawriter
 - iii. db_ddladmin



Configure Database Security in Checkmate Web Server

1) Open the security.config file included in the Hosted Solution zip package.

a. add a new XML element under parent element 'Logins'

Example:

```
<logins>
..... existing <add database entries />
  <add database="DATABASE" login="SQLLogin:SQLPassword" />
</logins>
```

*** **Note:** Replace Database, SQLLogin and SQLpassword as required

b. You **don't** need to restart the Checkmate Web Server

You should now be able to connect to the database by using the following link:

<http://<ComputerName>>

replace <ComputerName> with your computer name or IP address.

Enable Checkmate Services in Checkmate Web Server

Users must take care when creating config files. The following figure depicts a sample config file.

- Server address is service.geotab.com, and server port is 443.
- Checkmate uses SQL authentication to connect to the server.
- The SQL server is located at computer Thomas-XP (an IP address is also acceptable)
- Checkmate uses SQL authentication to connect to the database.

```

<LiveSettings>
  <PingTimeout>1200</PingTimeout>
  <ServerAddress>service.geotab.com</ServerAddress>
  <ServerPort>443</ServerPort>
</LiveSettings>
<DatabaseSettingsInternal>
  <ConnectedAccessPath />
  <ConnectedDatabaseType>MSSqlServer2000</ConnectedDatabaseType>
  <IsSqlAuthentication>true</IsSqlAuthentication>
  <IsDisconnected>>false</IsDisconnected>
  <ConnectedSqlServer>Thomas-XP</ConnectedSqlServer>
  <ConnectedSqlServerDatabase>GEOTAB3</ConnectedSqlServerDatabase>
</DatabaseSettingsInternal>

```

- 1) Open the following file called Sample.config
 - a) Change the following line to allow Checkmate Web Server to connect to the correct database

```
<ConnectedSqlServerDatabase>DATABASENAME</ConnectedSqlServerDatabase>
```

- b) Change the live downloader server as required

```

<LiveSettings>
  <PingTimeout>1200</PingTimeout>
  <ServerAddress>service.geotab.com</ServerAddress>
  <ServerPort>443</ServerPort>
</LiveSettings>

```

- c) Click file, 'Save As' and save the file in the following directory

Vista/Server 2008

C:\ProgramData\GEOTAB\Checkmate\Host Config

XP/Server2003

C:\Documents and Settings\All Users\Application Data\Geotab\Checkmate\ Host Config

The file must have extension .CONFIG

****Note:** Please include the database name in the filename.

d) -Verify that all required services are running

PC	Source	Status	Last Update	Info
SECUREV2 as SYSTEM	Uploader	Idle	2009-02-25T12:25:22	
SECUREV2 as SYSTEM	Notification Email Sender	Idle	2009-02-25T12:25:53	
SECUREV2 as SYSTEM	Data Processor	Idle	2009-02-25T12:25:53	Support on localhost

Note: The live downloader status will only appear if there are devices entered in the database

e) General Configuration

- a. Set administrator password and create users as required.
- b. Add devices to database

2) In order to start multiple live downloader services, you need to create a config file for each database, and copy it to the Host Config folder. The Checkmate Web Server will automatically start these services. For example, in the image below, there are three config files placed in the Host Config folder, so three live downloader services will be started.



Customer Setup

Installing Checkmate at the customer’s location is now a simple matter of clicking on a url that points to your checkmate web server and plugging in any Geotab peripherals such as a USB base station or key downloader. There is no database setup, or lengthy installation process at the customer site. The only requirement is that the customer has Microsoft .NET 2.0 SP1 installed on their computer, and an internet connection. After logging into the Checkmate Portal, the customer will launch checkmate directly from the web server.

Please enter your information

Database:

Email / User Name:

Password:

Please Login..

If the customer is running a passive RF system, the Checkmate service must be enabled on the computer running the RF Base Station. To enable the Checkmate service, follow these steps:

- 1) From the Home Page, click on Administration -> Options
- 2) Click on the Services Tab'
- 3) Check the box labeled 'Enable Checkmate Server on this PC'
- 4) Click on the 'Advanced..' button, and ensure the following boxes are checked:
 - a. Go Radio or Key through USB Downloader
 - b. Go Wi-Fi
 - c. Go Radio through Ethernet Downloader
- 5) Click OK

Troubleshooting

For information about the Checkmate Web Server status, open the log file in the following folder

Vista/Server 2008

C:\ProgramData\GEOTAB\Checkmate\Logs

XP/Server2003

C:\Documents and Settings\All Users\Application Data\Geotab\Checkmate\Logs

Log File Example

Log opened on 8/7/2009 7:51:50 AM
8/7/2009 7:51:50 AM: Starting Web Service up...
8/7/2009 7:51:50 AM: StatusRunning
8/7/2009 7:51:50 AM: Reading Config Files...
8/7/2009 7:51:50 AM: Reading 'C:\ProgramData\GEOTAB\Checkmate\Host Config\CustomerName1.config' ...
8/7/2009 7:51:50 AM: Connection is secured by the server certificate: CN=Geotab Inc
8/7/2009 7:51:50 AM: Listening on port 443
8/7/2009 7:51:50 AM: Running!