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BOSS®: BACK OFFICE SYSTEM SOFTWARE
Version 3.0.2

Software User's Manual

Part# AV000000000202

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Version

This manual documents version 3.0.2 of the PIPS BOSS software and was last updated on July 31, 2009.

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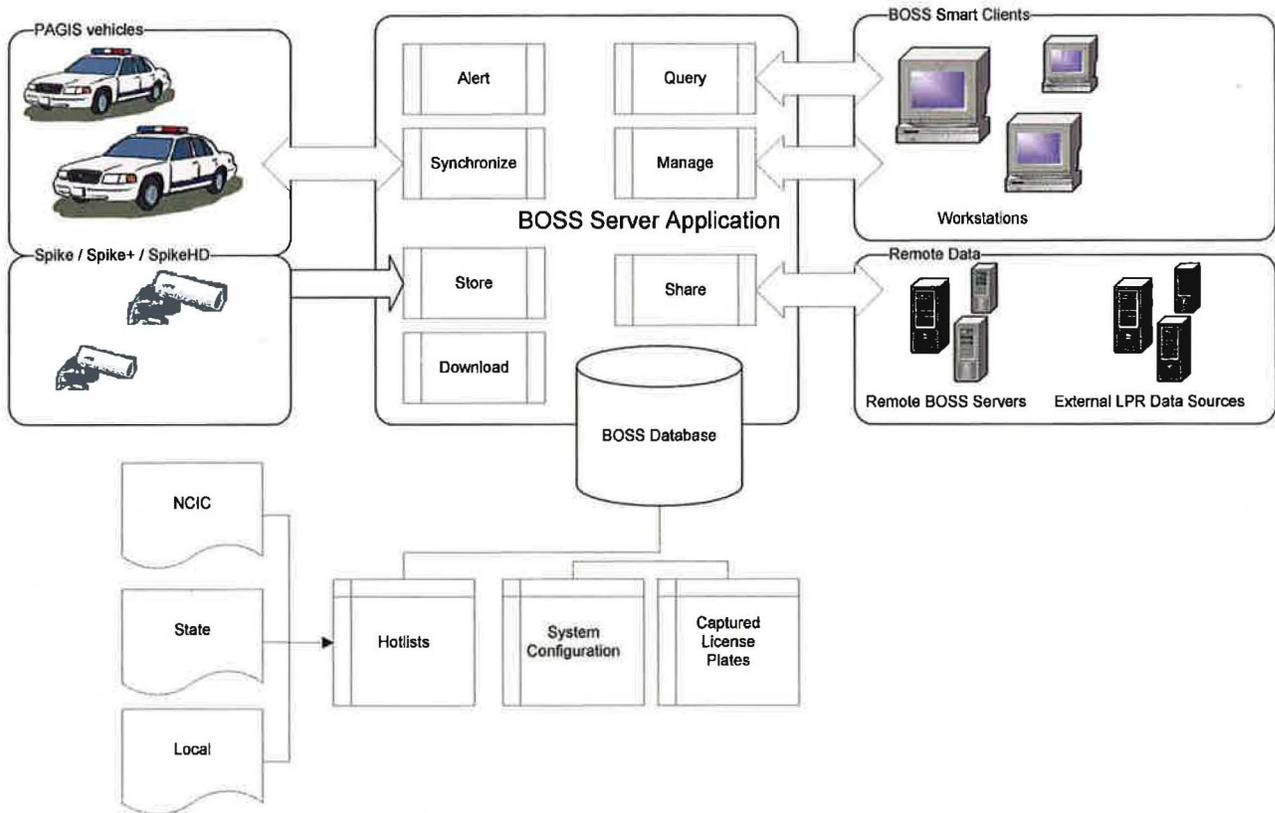
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1. INTRODUCTION

This document serves as a reference manual for version 3 of the Back Office System Software or "BOSS" software and will discuss the various features and functionality of the application. BOSS is a management and administration tool for PIPS ALPR systems. The BOSS application provides an interface for user maintenance, data queries, import and export of data, and dispatch functions. BOSS lets an administrator specify the databases used by both mobile and fixed camera installations. BOSS retrieves these databases on a regular schedule, manages the users of the PAGIS deployments, provides a central repository for data collected by mobile PAGIS deployments and fixed camera installations such as the Spike+, provides reporting and data management tools, provides hit detection and dispatch functions for fixed camera installations, and allows for data mining and data sharing with other agencies.

The schematic below shows how the BOSS works together with the PAGIS application and Spike/ Spike+/ SpikeHD cameras to create a comprehensive solution.



The New Design of BOSS version 3.0

BOSS version 3 introduces a new and improved user interface design. This new design increases user accessibility with a user-friendly look and feel. Large, easy-to-identify icons provide more intuitive navigation with the most important or frequently-used elements always appearing first. The user interface will seem very recognizable and comfortable, particularly for users already familiar with common Windows office software and/or PIPS PAGIS software. In addition, users will have to enter a minimum amount of information to add a data object, with the ability to include more details via "Advanced" options if needed.

Technical Support

Problems, suggestions, or questions? Please contact PIPS Technology. Software updates may be available on the Support section of the PIPS Technology website; <http://pipstechnology.com> (requires a login and password).

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2. MINIMUM SYSTEM REQUIREMENTS

The minimum recommended system requirements for installing and running the BOSS 3.0 Smart Client are:

- ❖ Pentium compatible PC at 1.0GHz
- ❖ Windows XP SP2 or later, Windows Vista or Windows 7.
- ❖ 512MB of RAM
- ❖ 32-bit SVGA display at 800 x 600 pixels
- ❖ 250 MB of hard drive space if the smart client is installed locally
- ❖ 10MB of hard drive space if installing via web
- ❖ Keyboard and mouse

3. INSTALLING THE BOSS 3.0 SMART CLIENT

The BOSS 3.0 Smart Client is a software application ("the BOSS application") used to access the BOSS server. The Smart Client application is typically run from a workstation in a local area network (LAN). For instructions for installing and deploying the Smart Client, please refer to the *BOSS 3.0 Installation and Configuration Guide*.

4. LOGGING IN

4.1. BOSS ADMINISTRATOR LOGIN

When a new BOSS system is installed, the default user "**admin**" is created, with password of "**admin1**". The installer or designated BOSS admin can login with this account to create additional users and otherwise configure the system. It is important that the admin password should be changed right away in order to protect system security. Also remember that it is very important that this password is kept confidential in order to protect the security of your BOSS system.

Please refer to the *BOSS 3.0 Installation and Configuration Guide* from more information about BOSS 3.0 installation.

4.2. USER LOGINS

The BOSS application will require the user to login with user name and password only if there is no BOSS user matching the current Active Directory user login. In other words, if the user name currently logged into Windows matches a user name in the BOSS system, the user is automatically logged into the application when it is started, and no login screen will appear.

For example, if user "bsmith" is logged in using Windows Domain Authentication through Active Directory ("logged into Windows") when the BOSS Smart Client is started, and a "bsmith" user exists within the BOSS system, no login screen will appear; the application will authenticate the user and load automatically. If a user logs into Windows that is not an exact match to that user name in the BOSS system, or is not logged into the same Windows Domain, a login screen will appear. The user will then have to enter a correct BOSS user name and password in order to enter the application.

Note: In order for BOSS to automatically login the user, the Active Directory user must be in the same Windows domain as the BOSS server.

4.3. LOGIN DIALOG



- Enter your username in the login field
- Enter correct password in the Password field. (Note: passwords are case sensitive).
- Click OK to complete the login process.

4.3.1. STORING USERNAME AND PASSWORD

Select the *Remember my password* option to save the password and automatically fill in both login and password fields on subsequent logins. Selecting this option only remembers the login information for the current Windows User on the local computer. It will not apply to a different Windows user logged into the same computer and will not apply to the same user logging into a different computer. Select the Remember my password option to save the password to the computer local registry and automatically fill in both login and password fields on subsequent logins. Selecting this option only remembers the login information for the current Windows User on the current computer.

The Remember my password option need not be checked every time. Once checked, the option will stay that way until it is deselected during a login.

Note: The username and the password are stored in the Windows Registry. This can be a security risk. It is recommended that the "Remember my password" option is not used unless the Windows workstation can be secured against unauthorized access.

4.3.2. BOSS CLIENT CONNECTION SETTINGS

Click the *BOSS Server* button on the Login screen to view/change the client connection settings (Server/Port).

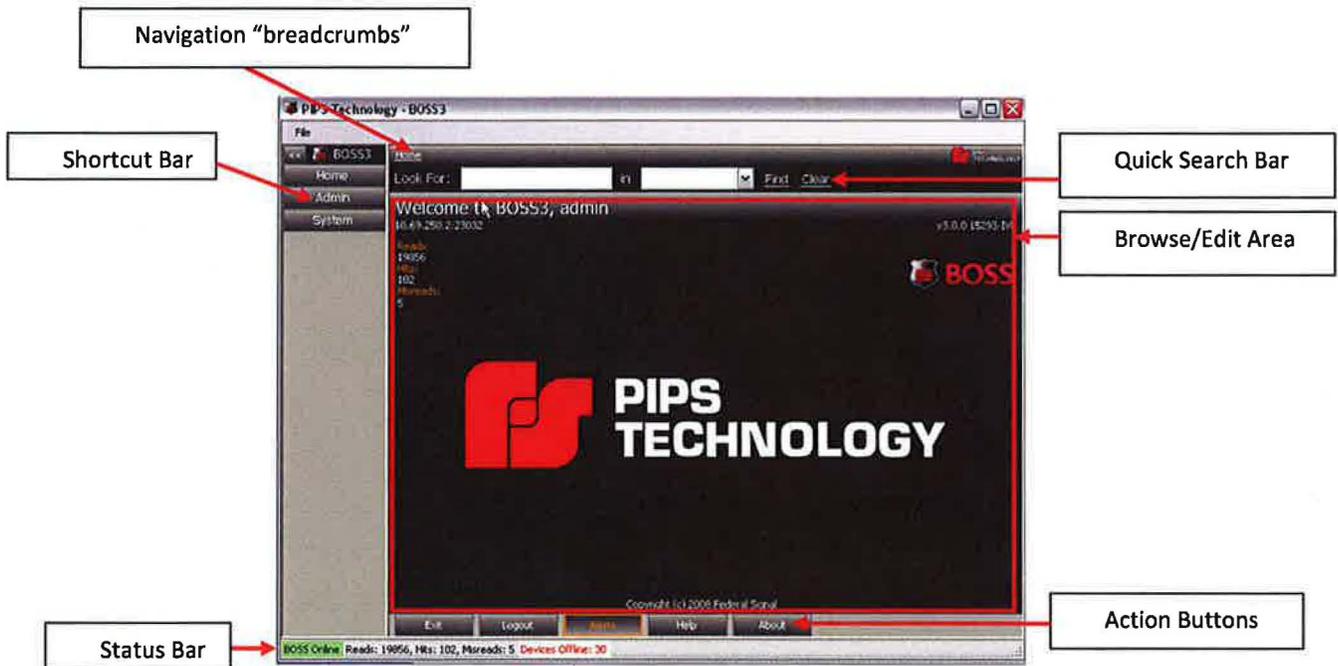
Server IP address, computer name or DNS address can be used in the server field as long as the client can reach the server using the value entered.

Port The default Port used for connecting to the BOSS server is 23032. This should only be changed here if the BOSS server has been configured to use a non-default port.



5. APPLICATION LAYOUT

5.1. COMPONENTS OF THE BOSS APPLICATION SCREEN



Navigation

The navigation "breadcrumbs" appear at the top of the BOSS screen as different actions are selected. By clicking on the links it is possible to backtrack to a previous screen.

Shortcut Bar

The panel that on the left of the screen. The shortcut bar contains icon buttons for the various operations available. The Shortcut icons are divided into 3 categories: Home, Admin, and System. Each time the application is first started; all of the categories are closed with no shortcuts displayed. Click on any of the three headings to access the shortcuts within that category.

The shortcut bar can be collapsed entirely (in order to provide a larger space for the Browse/Edit Area) by clicking the [<<] button at the top left of the screen. To expand the shortcut bar again, click the [>>] button.

Browse/Edit Area

This is the widest portion of the application window and where data is displayed for viewing or editing. The actual data is displayed here depends upon the shortcut icon that is selected from the shortcut bar.

Quick Search Bar This resides directly above the Browse/Edit Area and allows for simple, immediate queries of BOSS data. Using the quick search simply involves typing in text for which to query, selecting the type of data to search in the type dropdown. (Advanced queries are also available in various areas of the application.)

Action Buttons – These are the buttons directly below the browse/edit area. These buttons will differ per shortcut icon that is selected. The actual buttons that appear will vary depending upon the logged in user's privileges.

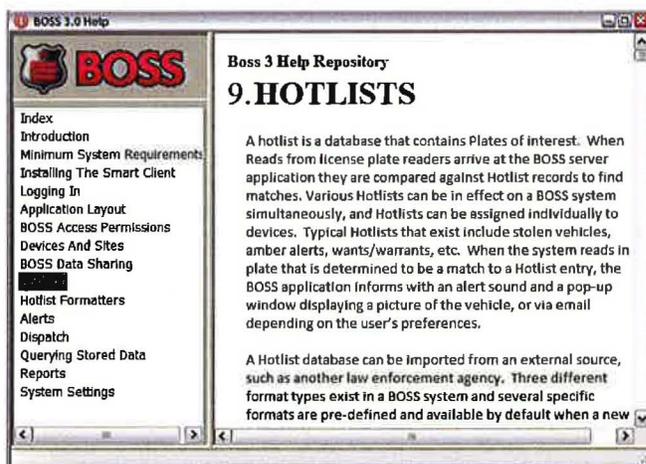
Status Bar – This is the area along the very bottom of the application window that displays state information and statistics. The following information is shown:

- ❖ **BOSS system state** (Online or Offline): An Online status indicates that the client is currently communicating with the BOSS server application and the server is running. An "Online" status is highlighted with a green background; a status of "Offline" is highlighted with a red background.
- ❖ **Reads:** The total number of Reads currently contained in the BOSS system
- ❖ **Hits:** The total number of Hits records currently contained in the BOSS system
- ❖ **MisReads:** The total number of Misreads currently contained in the BOSS system
- ❖ **Devices Offline:** The number of camera devices that are currently marked as offline.

File Menu The File menu of the application resides in the very top left of the application window. The File menu is always visible and available regardless of the screen or shortcut selected. The Exit option is available through this menu. Additional options may be available in this menu in future versions of the software.

5.2. ONLINE HELP

BOSS provides online help documentation accessible from the client application. To access help, press the **F1** button. A help documentation browser will be presented.



5.3. THE BOSS HOME SCREEN

The BOSS home screen is displayed upon login. The top banner displays the login name of the current BOSS user, the BOSS server address and current system statistics. Statistics may take a few moments to update after login.



- | | |
|---------------|--|
| Exit | Exit the BOSS application. |
| Logout | Log out from the current session to the login screen. |
| Alerts | Toggle dispatch alerts on (orange highlight) and off. This button will not be displayed if the user is not authorized to access the dispatch screen, or if the user has not chosen to receive dispatch alerts in Preferences . |
| Help | Activates the online help system. |
| About | Displays application information. |

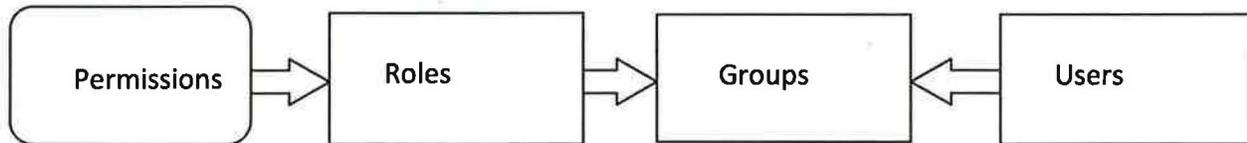
5.4. MINIMIZING THE BOSS APPLICATION

The BOSS application can be minimized to the Windows System Tray using the Windows minimize button on the right upper corner of the BOSS application window. To restore the BOSS application, click on the BOSS icon. When the application is minimized, real-time alerts will still be displayed.



6. BOSS ACCESS PERMISSIONS - USERS/GROUPS/ROLES

Access permissions to various functions (such as reports or dispatch alerts) in BOSS are administered through users, groups and roles. Each individual that will use the BOSS software must log in to BOSS via a user account. Each user account is assigned to a Group. Every Group is assigned a Role (such as Administrator or Dispatcher), which determines the set of functionality to which that the Group's members will have access:



The security parameters defined in a Role apply to a user via the group to which the user belongs

6.1. PERMISSION LEVELS

The following table lists the permission levels that apply to permissions:

Level	Explanation
No Access*	No permissions to the function
Read Only	View only permissions to the function. Add/Change/Delete not permitted.
Full Access	Complete permissions to the function. View/Add/Change/Delete permitted.

*When a user's effective permissions to a function are No Access, the function is not shown to the user. For example, if a user has No Access privileges to the System function, the System category is not displayed.

6.2. PERMISSIONS

The following table lists the functions that are controlled by permissions levels:

Permission	Explanation
Reads	Plate read information
Dispatch	Real-time monitoring and hit alerts
Users	Groups and user accounts
Hotlists	Hotlists (plates of interest)
Devices	Sites and LPR camera devices
System	System configuration options

6.3. ROLES

Roles are access permission profiles. BOSS3 comes with several predefined roles. A BOSS administrator is able to add additional roles to the system. A BOSS administrator is also able to alter and delete any roles.

Roles define a **permission level for different functions** of the system. The following tables show the permission levels and components used in defining roles.

The screen for editing Roles in BOSS looks as follows:



The following roles are installed by default in a BOSS3 system:

- ❖ System Administrator
- ❖ User
- ❖ Dispatcher
- ❖ Group Administrator
- ❖ Device Administrator
- ❖ Hotlist Administrator

6.3.1. CREATING A NEW ROLE

- Select the *System* category on the shortcut bar.
- Click the *Roles* shortcut. A listing of all existing Roles will display in the browse/edit area.
- Click the *New* button. The new role entry screen will appear.
- Enter a *Name* for role. (minimum 3 characters)
- Select a permission level for each of listed components by using the << and >> buttons to scroll through the options. Components are set to No Access by default. Click the << button to the left to increase the security level. Click the *Save* button to complete creation of the new Role.

6.3.2. DELETING A ROLE

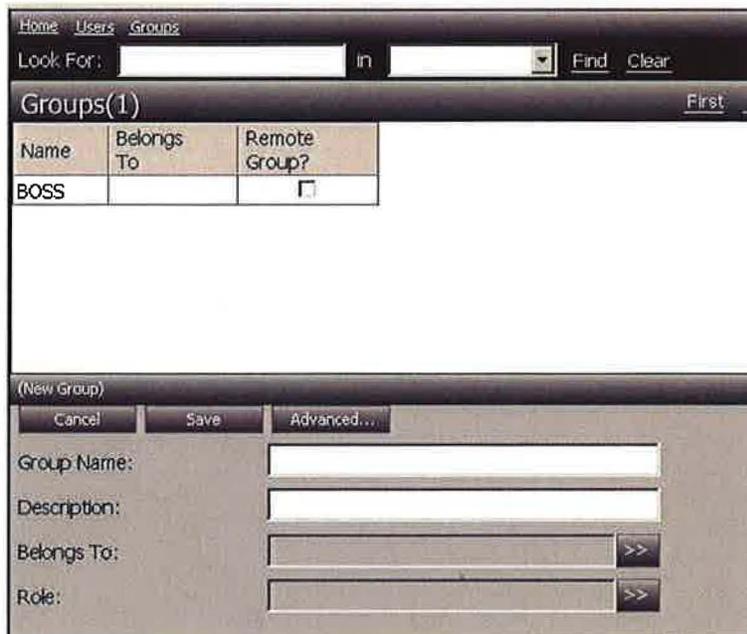
- Select the *System* category on the shortcut bar.
- Click the *Roles* shortcut. (A listing of all existing Roles will display in the browse/edit area).
- Click the desired Role in the list. An entry screen appears in the bottom of the browse/edit area for the selected Role.
- Click the *Delete* button. A dialog will appear requiring confirmation for the delete.
- Click the Yes button to complete the delete operation. The Role entry screen will close and the deleted Role will no longer appear in the Roles list.

6.4. GROUPS

Groups are collections of users that have the same permissions. Groups provide an efficient way to organize users, for example by organizational units, and easily assign permissions to those users.

Using Groups is optional. A default group named "BOSS" automatically exists within a BOSS system, and user accounts will by default belong to the "BOSS" group. The BOSS group cannot be deleted.

The screen for editing Groups in BOSS looks as follows:



6.4.1. CREATING A NEW GROUP

- Select the *Admin* category on the shortcut bar.
- Click the *Users* shortcut. (A listing of all existing Users will display in the browse/edit area).
- Click the *Groups* button at the bottom of the Browse/Edit area. (A listing of all existing Users will display in the browse/edit area).
- Click the *New* button.
- Enter a *Group Name*. (Group name must be at least 3 characters long.)
- Enter a *Group Description*. (optional).
- Select a parent Group. Each group is required to have a parent group. Only the default BOSS group has no parent. Click the >> button next to *Belongs To* in order to access a list of all existing groups. Click the desired group and click the << button to select. The name of the selected group will display in the *Belongs To* field.

- Assign a *Role* to the group. Click the >> button to select from existing roles. Click the desired role in the list and click the << button to make the selection. The name of the selected role will appear in the field.
- Click the *Advanced...* button to access additional, optional settings for the new group.

PAGIS Roles (User/Admin/External/PNC) –

Check desired PAGIS roles to grant the new group the associated permissions in PAGIS. Please refer to PAGIS documentation for more information.

Remote Group

Select this option to designate the group as remote. Logins from remote sites have to be in a group that is flagged as remote.

When a BOSS administrator wants to give access to another BOSS system for remote queries (“data sharing”), a login must be created and assigned to a group that is flagged as a remote group. The remote BOSS administrator will then create a remote site with credentials of that login.

Server Access

This option allows for defining which, if any, remote systems will be accessible by this group. Click the >> button to access a list of remote systems. (See section 6.4.2.)

Note: If no remote sites have been defined, no options are available for this field. Click each desired site and click the << button to complete the selection process. If one remote system is selected the name of that system will appear in the Server Access field. If more than one system was selected, “{MULTIPLE}” will appear in the field.

Log Queries

This option, when selected, will result in all queries made by all users of the group to be logged. This information is then available via the Audits report. **Warning:** *This can potentially be a very large amount of data. Select this option with care.*

- When advanced User settings are configured as desired, click the *Back* button to return to the main New Group Entry screen.
- Click the *Save* button to complete creating the new Group.

6.4.2. PARENT GROUPS

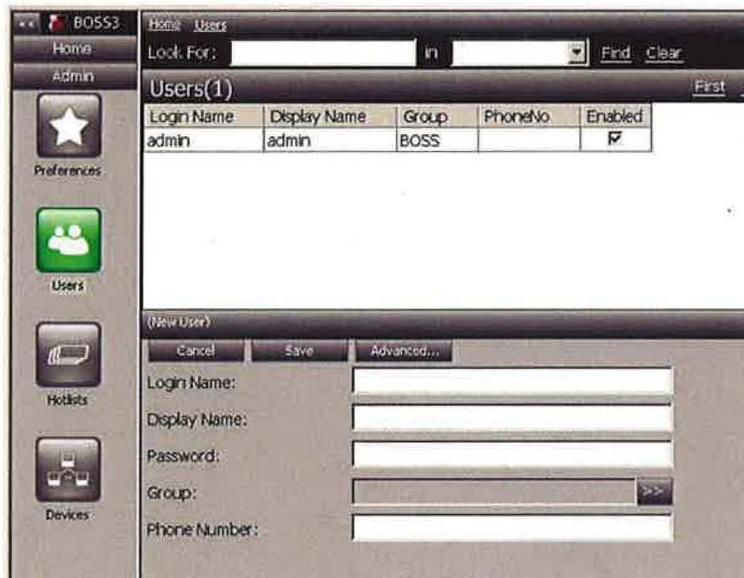
When creating a new group, selecting a Parent Group is required (the *Belongs To* field). BOSS uses a parent-child group structure as an organizational mechanism. This allows the BOSS administrator to arrange groups into collections based on location, job role, or any other applicable criteria. When selecting groups throughout the application, a Parent Group can be selected in order to easily select the entire collection of groups under that parent. This can be especially helpful in large installations that utilize a large number of groups.

6.4.3. DELETING A GROUP

- Select the *Admin* category on the shortcut bar.
- Click the *Users* shortcut.
- Click the Groups button at the bottom of the Browse/Edit area. (A listing of all existing Users will display in the browse/edit area).
- Click to select the desired group from the listing.
- Click the *Delete* button.
- Click *OK* to the confirmation dialog to complete the operation.

Warning: Any users currently assigned to the deleted group will be assigned to the default "BOSS" group. It is recommended to empty the group (by assigning all its users to different groups) prior to deleting.

6.5. USERS



6.5.1. CREATING A NEW USER

- Select the *Admin* category on the shortcut bar.
- Click the *Users* shortcut. (A listing of all existing Users will display in the browse/edit area).
- Click the *New* button at the bottom of the Browse/Edit area. The new user entry screen appears.
- Enter a *Login Name* for the new user. This is the name the user will use when logging into the BOSS application. The Login name must be at least 3 characters.
- Enter a *Display Name* for the new user. (optional)
- Enter a *Password* for the new user. Password must be at least 3 characters.
- Select a *Group* for the user. Click the >> button to access a list of all groups. Click on the desired group and click the << button to complete the selection.
- Enter a contact *Phone Number* for the user (optional). This field is simply for informational purposes, in a scenario where the BOSS administrator may need to contact the user.
- Click the *Advanced...* button to access additional, optional settings for the new user.

Email Address Email address or addresses associated with the user. BOSS alerts for the user are sent to the email addresses specified here. Multiple addresses should be separated with a comma or a semicolon.

Alert Notification By A user can be configured to receive BOSS alerts through the application ([Dispatch](#)), Email, or both mediums. Click the << or >> buttons to cycle through the options, stopping at the desired selection.

Notification Timeout The cutoff time from the time of when a hit occurred after which an alert will no longer be sent to the user. For example, if the notification timeout is 20 minutes and a plate of interest is detected at 12:00pm, notification is not sent to the user after 12:20pm. This timeout prevents alerts being sent for events that are delayed in arrival to BOSS.

Language The language preference for the user. The default value is English.

Displayed Images Height This setting defines the size in pixels of the images (Reads and Hits) that will display for the user in the Dispatch and Reads sections.

Expiration Date Date for the User account to automatically be disabled. Simply leave this field at its default value (30 years from current date) if no expiration is desired.

PAGIS Password The PAGIS password for the user. Note: The user must be in a Group that has been granted PAGIS permissions in order for the user to user to login to PAGIS.

- When advanced User settings are configured as desired, click the *Back* button to return to the main New User Entry screen.
- Click the *Save* button to complete creating the new User.

6.5.2. DELETING A USER

- Select the *Admin* category on the shortcut bar.
- Click the *Users* shortcut. (A listing of all existing Users will display in the browse/edit area).
- Click the desired user in the listing.
- Click the *Delete* button at the bottom of the Browse/Edit area.
- Click *Yes* to confirm the operation.

6.5.3. IMPORTING USERS FROM ACTIVE DIRECTORY

BOSS allows user logins to be imported from Microsoft Active Directory (AD) service.

- Select the *Admin* category on the shortcut bar.
- Click the *Users* shortcut.
- Click on the *Import* button.



- Select the BOSS Group that will receive the imported logins. Click on the ">>" button to display available groups and "<<" to commit the selection.
- Enter the default password for the imported logins in the *Password* field.
- Browse for the desired users – OR – type in the desired login name (full or partial) in the *Find* field and press *Filter* button.
- Click on the box in front of the desired login names to check mark logins to be imported to BOSS.
- Click on *Save* to import the logins from Active Directory.

Access permissions Example

The previous sections have discussed how BOSS user security is designed, utilizing roles, groups and user accounts. Now that creating each of these has been covered, let's look at an actual working example:

A BOSS administrator creates a role and names the role "Temporary Workers" defining the new role to have very limited permissions, as follows:

Reads	Read Only
Dispatch	Read Only
Users	No Access
Hotlists	No Access
Devices	No Access
System	No Access

Then the administrator creates a group called "Temps". When creating the group, a role is required. The admin selects the new role he just created "Temporary Workers". This assigns the permissions defined above to the new group.

Next, the admin creates a user account, "Jsmith" for a temporary worker. While creating the new user, he is required to select a group for the user. He assigns the user to the "Temps" group he just created.

The user "Jsmith" has now been created with the permissions shown above because he belongs to the group called "Temps" and that group was assigned the "Temporary Workers" role.

As you can see, this security design allows reusability of security roles as a BOSS administrator can define a set of permissions in a role, and that role can be assigned to multiple groups.

7. DEVICES AND SITES

7.1. DEVICES

A BOSS device is any source that can input Reads into the system. Normally, a device is a camera – either fixed or mobile (mounted in a vehicle). Another source for Reads is manual entry, in which a BOSS user types the information for a Read into the BOSS application.

7.2. DEFAULT DEVICES

A new BOSS3 site automatically contains two default devices:

- ❖ MANUAL ENTRIES
- ❖ UNASSIGNED

A BOSS administrator create additional devices applicable to his/her organization.

Name	Device Name	Site	Fixed	Enabled	Status	Last Updated
Manual Entries	MANUAL ENTRIES	MANUAL ENTRIES	<input type="checkbox"/>	<input checked="" type="checkbox"/>		10/6/2008 9:19 AM
Unassigned	UNASSIGNED	UNASSIGNED	<input type="checkbox"/>	<input checked="" type="checkbox"/>		10/6/2008 9:19 AM
lane_1	lane_1	5th and Main	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		10/6/2008 10:46 AM
lane_2	lane_2	5th and Main	<input type="checkbox"/>	<input checked="" type="checkbox"/>		10/6/2008 9:19 AM
lane_3	lane_3	5th and Main	<input type="checkbox"/>	<input checked="" type="checkbox"/>		10/6/2008 9:19 AM
Eastbound	State and Main	State and Main	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		10/6/2008 10:46 AM

7.2.1. DEFINING A DEVICE

Note: Devices will be defined automatically when a PIPS device connects to BOSS the first time. Normally, there is no need to define devices in advance.

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut. A listing of existing devices will appear in the browse/edit area.
- Click the *New* button.
- Enter a *Name* for the new device. (Name must be at least 3 characters long.) Note that the name cannot be changed once the device has been created.
- Enter a *Description* for the new device. (Description must be at least 3 characters long.)
- Select mobile or fixed in the *Type* field. By default, Fixed is selected. To change the current selection, click the left or right arrow.
- Select a *Site*. Click the >> button next to the site field to display a list of all available sites. Click on the desired site in the list and click the << button. **Note:** There are two default sites created automatically when a new BOSS system is installed. Additional sites can be created by an authorized BOSS user. See the following section for information regarding sites.
- Select *Owners*. Owners mean groups that can access this device. For PAGIS units, it means that user logins are sent only to devices where the group is an owner of the device. Click the right arrow next to the Owners field to display a list of all BOSS groups. Select each desired group by clicking the checkbox. When the desired groups are selected, click the left pointing arrow.
- If one group is selected, the group name is displayed in the Owners field. If more than one group is selected, "(MULTIPLE)" is displayed in the field.
- Select *Latitude* and *Longitude* values for the geographical location of device by typing in a value or using the up and down controls on each field to increase or decrease the value. Note that some devices (such as PAGIS units) will automatically send the latitude and longitude of the device to BOSS.
- Click the *Advanced* button to display additional options for the device.

No Reads Alert-	Defines how long the device must remain with no reads coming in before the system shows the device as offline.
Alert Email	The email address or addresses to which alerts associated with this device should be sent.
Retain Reads	The length of time that Reads from this device should be saved in the BOSS database. If the Retain Reads setting must be longer or equal than the Retain images setting
Retain Images	The length of time that pictures captured by this device should be saved in the BOSS database.

SpikeStore The PIPS P372 and P382 allow captured images to be stored in a on-board flash memory to be retrieved on demand. Setting a device as a SpikeStore device causes BOSS to attempt to retrieve images from the storage device when the Read is requested for viewing.

- When Advanced Options have been set as desired, click *Back* to return to the New Device screen.
- Click the *Save* button to complete creation of the new device. The new device will now appear in the devices list above.

7.2.2. EDITING A DEVICE

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut. A listing of all devices appears in the Browse/Edit area.
- Click the desired device to select. Details for the selected device appear in the Browse/Edit area.
- Click the *Edit* button.
- The Device edit screen appears in the bottom of the screen.
- Modify fields as desired and click the *Save* button.

7.2.3. ENABLING AND DISABLING A DEVICE

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut. A listing of all devices appears in the Browse/Edit area.
- Click the desired device to select. Details for the selected device appear in the Browse/Edit area.
- Click the *Edit* button.
- The Device edit screen appears in the bottom of the screen.
- Click the *Disable/Enable* button. The change will take effect the next time BOSS is restarted.

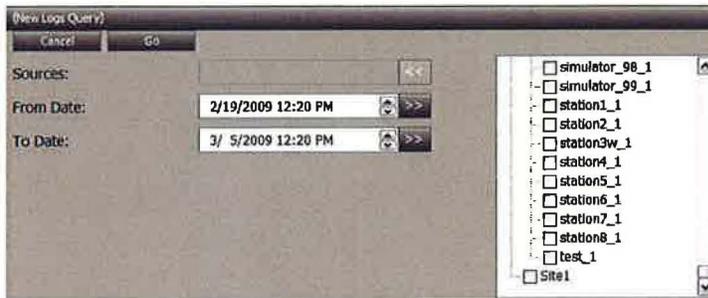
7.2.4. DELETING A DEVICE

Note: It is strongly recommended that **devices are never deleted**. If a device is deleted, queries can no longer be performed using the device as a criterion. Instead of deleting a device, it should be disabled or given a new description.

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut. (A listing of all existing Devices will display in the browse/edit area).
- Click the desired device in the listing.
- Click the *Edit* button.
- Click the *Delete* button at the bottom of the Browse/Edit area.
- Click *Yes* to confirm the operation.

7.2.5. VIEWING DEVICE LOGS

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut.
- Click the *Logs* button at the bottom of the screen.



Sources Select the sources from which to view log entries.

From Date Select the start date for the display.

To Date Select the end date for the display.

- Click *Go* to view the log entries.

7.3. SITES

A site is an optional mechanism for organizing devices. This allows a BOSS admin to arrange devices into groups according to convenience, such as geographical area or a facility. The ability to group or arrange devices can be quite significant in large installations where there are many devices. Each device created must be assigned to a site.



7.3.1. DEFAULT SITES

A new BOSS3 site automatically contains two default sites:

- ❖ MANUAL ENTRIES
- ❖ UNASSIGNED

Normally, a BOSS administrator will want to create additional sites applicable to her organization.

7.3.2. CREATING A SITE

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut.
- Click the *Sites* button at the bottom of the screen. A listing of existing sites will appear in the browse/edit area.
- Click the *New* button at the bottom of the screen.
- Enter a *Name* for the new site. (Name must be at least 3 characters long.) Note that the name cannot be changed once the site is created.
- Enter a *Description* for the site. (Description must be at least 3 characters long.)
- Select the parent site for the site. BOSS allows organizing sites into tree-like hierarchies. Click the right-pointing arrow next to the *Belongs To* field and select one site from the list. Click the << button to complete the selection. The site name will appear in the *Belongs To* field.
- Check the *Remote* option to designate as a remote site. (Remote sites are explained in the next section.)

7.3.3. DELETING A SITE

Note: It is strongly recommended that **sites are never deleted**. If a site is deleted, queries can no longer be performed using the site as a criterion. Instead of deleting a site, devices assigned to it should be moved to another site.

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut. (A listing of all existing Devices will display in the browse/edit area).
- Click the *Sites* button at the bottom of the screen. A listing of existing sites will appear in the browse/edit area.
- Click the desired site in the listing.
- Click the *Edit* button.
- Click the *Delete* button at the bottom of the Browse/Edit area.
- Click *Yes* to confirm the operation

8. BOSS DATA SHARING

BOSS allows "linking" of multiple BOSS systems for data sharing purposes. When a user issues a query from the Smart Client application that includes a remote site, the query is submitted to the local BOSS server, which in turn makes a query to the remote BOSS server(s). The combined results from all the sites are then returned to the smart client. Data from remote sites is not retained on the local BOSS server.

In order to configure BOSS for data sharing, the following configuration needs to be done:

8.1. CONFIGURING BOSS TO ALLOW REMOTE BOSS QUERIES

- Create A BOSS user for remote access. This user account is a "proxy" that all requests from client BOSS server will use. This user account will have "Reads" privileges by default; no other privileges need to be given. The user must be assigned to a remote group (See the [Groups](#) section of this document for information about flagging a group as remote.)
- Give the username and password for this "proxy" user to the BOSS administrator at the remote BOSS system.

Tip: It is best to create a dedicated user account for remote sites, one that will not be used for an actual user to login and access the application.

8.2. CONFIGURING A BOSS TO ACCESS A REMOTE BOSS SERVER

- Obtain username and password from BOSS administrator at the remote site.
- Create a site for the Remote BOSS server and select the Remote option. The remote site IP address and BOSS service port (23032 by default), and the login name and password of the remote user login must be entered.
- For each Group that is allowed to query the remote BOSS server, assign the remote server to the user via the *Servers Access* option (See section 5.5.1).
- The Remote BOSS server can be queried by selecting the desired servers in the "[Reads Query](#)" screen.

Note: BOSS3 does not support data sharing with BOSS 2.5.x servers, only between BOSS 3.0 servers.

9. HOTLISTS

A hotlist is a database that contains Plates of interest. When Reads from license plate readers arrive at the BOSS server application they are compared against Hotlist records to find matches. Various Hotlists can be in effect on a BOSS system simultaneously, and Hotlists can be assigned individually to devices. Typical Hotlists that exist include stolen vehicles, amber alerts, wants/warrants, etc. When the system reads in a plate that is determined to be a match to a Hotlist entry, the BOSS application informs with an alert sound and a pop-up window displaying a picture of the vehicle, or via email depending on the user's preferences.

A Hotlist database can be imported from an external source, such as another law enforcement agency. Three different format types exist in a BOSS system and several specific formats are pre-defined and available by default when a new BOSS system is loaded.

9.1. CREATING A NEW HOTLIST

There are 3 general areas to complete when creating a new hotlist:

- ❖ **Configure Basic Settings**
- ❖ **Define a Source**
 - **Provide Credentials for Source (when necessary)**
- ❖ **Define Advanced Settings (optional)**

The following sections describe the detailed steps for creating a new hotlist.

9.1.1. CONFIGURING BASIC HOTLIST SETTINGS

- Select the *Admin* Category on the Shortcut bar.
- Click the *Hotlists* button. Currently existing Hotlists appear in the browse/edit area.
- Click the *New* Button at the bottom of the browse/edit area. The New Hotlist entry form appears.



- Enter a *Name* for the Hotlist. (You cannot use a Hotlist name that already exists. The name must be at least 3 characters and be alphanumeric.) Note: Hotlist names of hotlists that are shared between BOSS servers cannot contain spaces.
- Enter a *Description* for the Hotlist (optional).
- Select a *Priority* for the Hotlist. (When there are multiple hits/alerts, the priority determines which alert will occur first. Lower number means greater priority.)
- Select a *Sound* for alerts resulting from this Hotlist. (optional) Click the Load button to select a Microsoft Wave Sound File Format¹ (*.wav) file. To test the selected sound, click the *Play* button. Optionally, one of the three default sounds may be selected (Low, Medium or High Alert).
- Select *Colors* for the alert if desired (optional). The default is white text on a royal blue background. Custom color settings affect the entries in Dispatch. The background color also applies to alerts in PAGIS.
- Click *Text* button to select a color for the text.
- Click the *Bgnd* (Background) button to select a color for the background. Note: Currently selected text and background color is displayed in the sample box, showing ABC123.
- Select devices for Deployment. Click the >> button to the right of the Deployment field to select devices to which to apply this Hotlist. The list appears. Click the checkbox next to a device in order to select it. When desired devices are checked, click the << button to make the selection. One or more devices can be selected. If one device is selected, the Deployment field will show the name of that device. If multiple devices are selected, "(MULTIPLE)" will display in the deployment field.

Deployment means distributing the hotlist to a device or devices. Only the devices where a hotlist is deployed will produce hits from the hotlist.

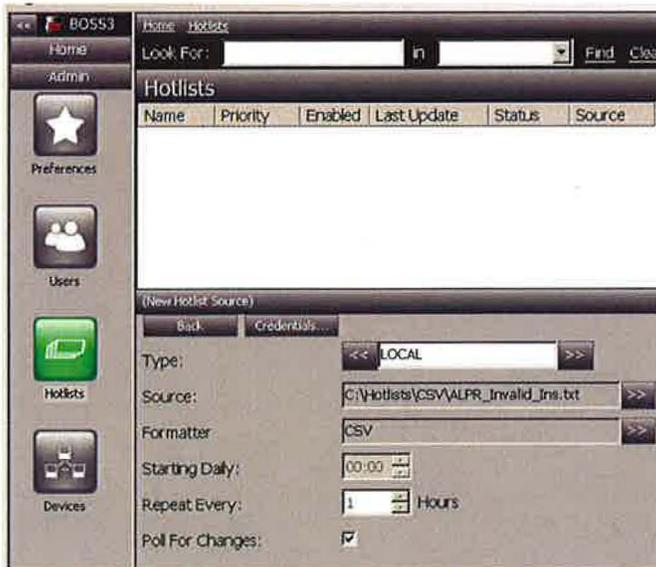
¹ <http://en.wikipedia.org/wiki/WAV>

- Select groups for *Notification*. Click the >> button to see a list of all BOSS groups. Click the checkbox next to a group to select the group. When you select a parent group, child groups are automatically selected. When desired groups are checked, click the << button to make the selection.

In order to receive alerts for hits on the hotlist, the user must be in the Notification list of the hotlist. Also see more information about Covert hotlists later on in this section.

9.1.2. DEFINING A HOTLIST DATA SOURCE

- In the Hotlist edit screen, click the *Source* button:



Type (Network or Local) -A local source means that the file is physically on the BOSS server Windows file system. A network source means that the hotlist source resides outside of the BOSS server.

Note: If a Local source is selected, the source file location (folder) must be accessible to the Windows process running the BOSS server application ("PIPS BOSS3" Windows service).

Source For a local source, click the >> button to the right of the location field. A file dialog will display in which you can navigate to a path and select a file. For a network source, Click the >> button to select one of the default Locations (if applicable) OR type in the location for the source.

- ❖ **HTTP** - The location format must be "http://server:port/path". There are a few predefined HTTP locations (CA DOJ) included in BOSS that can be accessed with the >> button.
- ❖ **FTP** - The location format must be "ftp://server:port/path".
- ❖ **Remote BOSS system** -The location format must be "boss://server:port/hotlist" where "hotlist" is the hotlist name on the remote system. Note: The remote system hotlist name **must be alphanumeric and cannot contain any spaces**.

Formatter Formatter means the way a hotlist database file is parsed out into discrete fields. Click the >> button next to the Formatter field. A list of available formatters appears. Click on the desired formatter and click the << button to make the selection. The name of the selected formatter will appear in the field.

Note: Normally, one of the several default formatters included with BOSS, is sufficient. A new, custom formatter can be created if necessary. See *Creating Formatters* section for more instructions on creating a new formatter. If a new Formatter is necessary, you can simply select any formatter at this point so that you are able to save your new Hotlist. After the new formatter is created, edit the hotlist, selecting the new formatter.

Starting Daily Hours:minutes between 00:00 and 24:00 can be selected to specify the time of day that the Hotlist should begin updating every day.

Repeat Every This setting allows you to specify the time interval in hours (1-24) between updates in hours

-OR-

Poll for Changes You will notice that when you select this option the Starting Daily and Repeat Every are disabled. When the *Poll for changes* option is selected, BOSS will check for updates to the hotlist approximately every 30 seconds.

Note: If *Poll for changes* is selected and the hotlist source resides on the network, BOSS will attempt to make a network connection every 30 seconds. This may incur significant network traffic. Use with caution.

9.1.3. ZIP COMPRESSED HOTLIST FILES

BOSS will automatically recognize and extract a hotlist data file contained in a ZIP archive file², such as Windows Explorer compressed (zipped) folder. There can be only one file in the ZIP archive.

² [http://en.wikipedia.org/wiki/ZIP_\(file_format\)](http://en.wikipedia.org/wiki/ZIP_(file_format))

9.1.4. DEFINING HOTLIST SOURCE CREDENTIALS

Some sources will require credential settings (e.g. login information) in order to allow BOSS to access that data. To enter the credential settings, in the Hotlist Source screen, click the *Credentials* button.

The credentials depend on the source type as follows:

Network -HTTP If the HTTP (website) source defined requires login information, it should be entered in the credential section. This will include username and password. Domain field may be necessary as well. Consult the administrator of the HTTP source for required login information.

Network- FTP Unless the FTP server allows anonymous connections, username and password must be entered for the FTP source.

Network -Remote BOSS system

A login name and password valid on the remote BOSS system must be entered. (as in remote sites configuration). Consult the administrator of the remote BOSS system for username/password.

- Click the *Credentials* button. The credential input screen appears.
- Enter Username, Password and Domain information applicable to the source you are specifying.
- Click the *Back* button to return to the Source entry form.
- Click the *Back* button again to return to the New Hotlist entry screen.



9.1.5. DEFINING HOTLIST ADVANCED OPTIONS

Advanced Options are values that allow you to further define details of the new Hotlist. To access the Advanced Options, click the *Advanced...* button on the New Hotlist entry screen.

Covert A covert hotlist is one that contains sensitive information that should be available to only certain user groups.

The effects of defining a hotlist as covert are as follows:

- ❖ A hit on the covert hotlist will not be alerted to users in mobile PAGIS vehicles, unless the logged in user is a PAGIS Administrator.
- ❖ A hit on the covert hotlist will not be alerted in the BOSS application, regardless of the user alert preferences. Hit alerts for covert hotlists will be sent only via email.
- ❖ When reads are queried, hit information on covert hotlists will be displayed only to users in the "Notifications" list for the hotlist. Other users will see that the read is a hit, but no information will be shown.
- ❖ Hit information for hits from covert hotlists will not be sent to remote BOSS servers.

Whitelist This option, when selected, defines the hotlist to be a whitelist, which works reversely to a normal hotlist. A whitelist defines a list of plates that are authorized and not of concern. When a whitelist is active, license plates read that do *not* match an entry on the list will trigger a Hit/Alert.

An example of a whitelist use might be a secure parking lot in which camera devices are monitoring vehicles entering. Authorized plates will match entries in a whitelist Hotlist. If a plate is read that does not match an entry in the whitelist, an alert occurs.

Whitelists and hotlists can be active for a device simultaneously.

Wildcard This option, when selected, allows wildcard characters in LPN entries in the Hotlist. **Note:** This feature is not yet functional, but will be operational in a future version of the software.

One Time This option, when selected, specifies that the Hotlist data should only be accessed from its defined source one time (no subsequent updating after the first import.)

Alert Timeout This setting allows you to define how current a Hit (from this Hotlist) must be in order to cause an alert. This primarily pertains to information coming in from mobile units, where there may be a large delay. Alert Timeout can be specified in minutes, hours, days or months.

- Delete Inactive** BOSS updates hotlists in an incremental manner, and instead of deleting hotlist entries that no longer exist, non-existent entries are marked as "inactive". If the entry subsequently becomes valid, the entry is marked active again. This reduces network traffic and makes hotlist updates more efficient. The Delete Inactive value determines how long inactive entries are kept in the BOSS hotlist database.
- Notify Email** One or multiple email addresses may be defined to receive an alert when there is a Hit. Multiple email addresses can be entered in the field, separated by a comma or a semicolon.
- Remote Alerts To** (This setting is only applicable if there are remote sites defined.) Select remote sites in which to send alerts. When a BOSS system sends an alert to a remote system, it is sent as a Read; the remote BOSS system then determines whether to treat the Read as a Hit.
- Expires** Determines the date that the Hotlist will stop importing data from its source. For a Hotlist that is intended to be permanent, leave the expiration at the default value. (Default expires value is 30 years from current date.)

9.2. ENABLING AND DISABLING A HOTLIST

- Select the *Admin* category on the shortcut bar.
- Click the *Hotlists* shortcut. A listing of all hotlists appears in the Browse/Edit area.
- Click the desired hotlist to select. Details for the selected hotlist appear in the Browse/Edit area.
- Click the *Edit* button.
- The Hotlist edit screen appears in the bottom of the screen.
- Click the *Disable* or *Enable* button

9.3. VIEWING AND EDITING HOTLIST ENTRIES

BOSS allows viewing, adding, editing and deleting hotlist entries.

Note: If the hotlist is set to update automatically, any changes to hotlist made from the BOSS application will be lost at the next automatic update.

9.3.1. QUERYING HOTLIST ENTRIES

- Select the *Admin* category on the shortcut bar.
- Click the *Hotlists* shortcut. A listing of all hotlists appears in the Browse/Edit area.
- Click the desired hotlist to select. Details for the selected hotlist appear in the Browse/Edit area.
- Click the *Plates* button.

- The *Hotlist Plates* screen will be displayed.



- Type in the plate text to find (or partial plate text) in the LPN field.
- Click on the *Find* link.

License plates that match the criteria will be displayed. Note that only the first 1000 matching license plates will be shown.

9.3.2. EDITING A HOTLIST ENTRY

- Retrieve hotlist plates as instructed in section 9.3.1.
- Click on the row showing the desired plate.
- The plate edit form will be displayed at the bottom of the screen.
- Edit the field values as desired.
- Click *Save* to save changes.



9.3.3. ADDING A HOTLIST ENTRY MANUALLY

- Select the *Admin* category on the shortcut bar.
- Click the *Hotlists* shortcut. A listing of all hotlists appears in the Browse/Edit area.
- Click the desired hotlist to select. Details for the selected hotlist appear in the Browse/Edit area.
- Click the *Plates* button.
- Click the *New* button. The plate edit form will be displayed at the bottom of the screen.
- Enter the LPN (mandatory) and other fields (optional).
- Click *Save* to save changes.

Note: Manually added hotlist entries will be lost the next time the hotlist is updated automatically.

9.3.4. DELETING A HOTLIST ENTRY

- Retrieve hotlist plates as instructed in section 9.3.1.
- Click on the row showing the desired plate.
- The plate edit form will be displayed at the bottom of the screen.
- Click the *Delete* button.
- Click *Yes* to confirm the deletion.

9.4. TARGETS

Targets are individuals of interest associated with a license plate. Target information is downloaded to the PAGIS mobile application from BOSS. To access Targets:

- Retrieve hotlist plates as instructed in section 9.3.1.
- Click on the row showing the desired plate.
- The plate edit form will be displayed at the bottom of the screen.
- Click the *Targets* button.



9.4.1. CREATING A NEW TARGET

- Activate the Targets screen as described in section 8.4.
- Click the *New* button.
- The Target Edit form will be displayed.
- Fill in the fields with appropriate values.
- Click the *Save* button.



The fields supported are:

Full Name	The first and last name of the target.
Date of Birth	The date of birth of the target.
Ethnicity	The ethnicity (race or national origin) of the target.
PNCID	The UK Police National Computer ID of the target. This field is linked to the PNCID field in the hotlist information in the PAGIS application.
Category	The category of the target (such as Felon, Suspect etc.)
Warning	The warning information to display to the officer.

A “mugshot” image of the target can also be associated with the target record. Upload an image by clicking on the “>>” button and browsing to the image file (.JPG, .GIF or .BMP).

9.4.2. DELETING A TARGET

- Activate the Targets screen as described in section 8.4.
- Click the row containing the target to be deleted.
- The Target Edit form will be displayed.
- Click the *Delete* button.
- Click *Yes* to confirm deletion.

10. HOTLIST FORMATTERS

Hotlist Formatters define the structure of source data that is imported into BOSS Hotlists. BOSS3 includes several default formatters when the software is installed. There are three types of formatters:

- ❖ CSV- A flat text file containing one line for every record. Each field in the record is separated by a comma.
- ❖ Fixed Length – A flat text file containing records all the same length. No separator characters are used to determine where a field ends and another begins, but rather, field and record lengths are known up front. In a fixed length file, padding spaces are used where necessary, to accomplish the correct field length.
- ❖ NCIC – NCIC (United States National Crime Information Center) database is a computerized index of criminal justice information (i.e.- criminal record history information, fugitives, stolen properties, missing persons), that is available to law enforcement agencies and is operational 24 hours a day, 365 days a year. Several NCIC import sources/formats exist within BOSS.

10.1. CREATING A NEW FORMATTER FOR HOTLISTS

BOSS 3 contains several default formatters for Hotlists. Normally, when creating a new Hotlist, you will find that one of these default formatters is what you need. However, BOSS does allow the flexibility to create new hotlist formatters. Creating a new Formatter or modifying an existing formatter should be approached with caution and is beyond the scope of this manual. PIPS provides BOSS training that details creating and modifying hotlist formatters in practice. For more information, please contact [PIPS Technical Support](#).

11. ALERTS

BOSS can send real-time alerts to either on-screen via the BOSS application, or through email. In order to receive alerts through the BOSS application, **the logged in user must be in a group that is assigned the Dispatch permission**. Email alerts can be received by any BOSS user, or email address recipient.

A real-time alert for a hit will pop up on the screen when the BOSS application is running regardless of which screen the user has active at the time. If there's a sound associated with the hit, it will be played. Alerts will be queued until the user acknowledges them by clicking "OK".

Real-time alerting in the BOSS application can be turned off by clicking on the "Alerts" button on the BOSS home screen.

The settings for real-time alerts can be modified through the Dispatch screen.



12. DISPATCH

The purpose of the Dispatch screen is to be a tool for first responder dispatchers for viewing hits, and for monitoring and correcting license plate reads that come into the BOSS system. The information on the Dispatch screen is near "real-time". Plate reads and hits are shown immediately as they arrive into the BOSS application from license plate reader cameras.

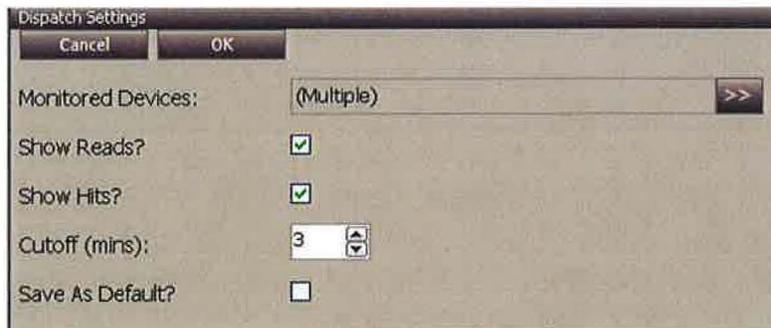
12.1. ACCESSING DISPATCH

- Click on the *Home* category on the shortcut bar.
- Click the *Dispatch* shortcut icon.

12.1.1. DISPATCH SETTINGS

Dispatch Settings allow you to choose the information shown in the Dispatch screen.

- Select the *Home* category in the shortcut bar (if not already selected).
- Click the *Dispatch* shortcut.
- Click the *Settings* button in the bottom of the browse/edit area.



Monitored Devices Camera sources can be selected or deselected to control which ones will supply Reads (and resulting Hits) to the dispatch screen. This allows individual dispatchers to focus on particular camera inputs.

In large BOSS deployments it may not be practical for a single dispatcher to monitor all sources simultaneously. This setting allows the dispatcher to select/deselect any combination of sources (one, multiple or all) for monitoring. An organization may choose to assign individual dispatcher personnel to different sources or may select to focus on particular sources during certain time periods or events.

Show Reads *	When selected, all Reads (from devices selected in Monitored Devices field) display in the dispatch screen. By default, this option is not selected.
Show Hits*	When selected, Hits will display in the top section of the dispatch screen as they occur. When the option is deselected, rows are not displayed in the Hits section. However, popup alerts will still display for Hits, regardless of this setting.
Cutoff (mins)	The cutoff setting determines how current from the present time a Hit or Read must be in order to display on the dispatch screen. This setting determines the number of minutes before data is discarded from the on-screen display.
Save As Default	When checked, the settings are saved and restored the next time the user logs in. Note that selected devices will always default to the devices where the user is configured to receive notifications in the Hotlist settings (see Notifications in section 8.1.1).

**If the Alert Toggle button(see 4.1) is set to the off position, Hits and Reads will not display in the Dispatch screen.*

- Change Dispatch settings as desired and click the *Save* button to put the changes into effect.

The dispatch screen is divided into two sections, with Hits shown in the top section and Reads shown in the bottom

12.1.2. DISPATCH HITS

The Dispatch screen displays rows for Hits. (The Show Hits option must be selected in dispatch settings in order for Hits to display.) Each new Hit produces a new row.

The columns displayed are:

Device	The device that originated the read.
LPN	The license plate value (characters) read in by a camera or manually entered by a user.
Misread	Check indicates that this record was marked as a misread.
TimeStamp	Date and time that the read occurred.
Syntax	The state or region of the plate, if available.
Misread	Check indicates that the hit resulted from a read that was marked as a misread.
Manual	Check indicates that the hit resulted from a manual entry (put in by a BOSS user.)
Patch	Small image of the license plate.
Overview	Color overview picture of the vehicle.

Hotlist	The name of the hotlist from which the hit occurred
Field1 ... Field*	Fields originating from the hotlist. The content and meaning of these fields vary depending on the composition of the hotlist.
PNC/DL	Primarily used for United Kingdom deployments for storing the UK Police National Computer reference number. It is commonly used for Driver's license number in US installations.
Info	Commonly contains free form additional text associated with the hit record. In situations where the hotlist source contains additional fields, the additional information is all stored in this field.
Priority	Priority assigned to the Hotlist. (Lower number means greater priority)
Annotation	Notes associated with the Read. Annotations are entered by BOSS users. * <i>The content in Custom fields (Field1-Field5) will differ per hotlist.</i>

12.1.3. DISPATCH READS

The bottom section of the dispatch screen displays rows for Reads. (The Show Reads option must be selected in dispatch settings in order for Reads to display.) Each Read produces a new row.

The columns displayed are:

Device	The device from which the read originated.
LPN	The license plate value (characters) read in by a camera or manually entered by a user
Timestamp	The date and time that the read occurred.
Patch	Small image of the license plate.
Overview	Color overview image of the vehicle.
Misread	Check indicates that this record was marked as a misread.
Hit	Check indicates this Read resulted in a Hit.
Manual	Check indicates this Read was input manually by a BOSS user (rather than originating from a camera device).
Annotation	Notes associated with the Read. Annotations are entered by BOSS users.

12.2. MANUAL ENTRIES

There may be times that a camera does not read a plate or for some other reason, a Read needs to be entered manually by a dispatcher. Manual Read entries can be added by an authorized user via the Dispatch section.

12.2.1. ADDING A MANUAL ENTRY

- From the Dispatch Screen, click the *Add* button. The Manual entry screen appears in the lower half of the browse/edit area.
- Enter the plate characters in the *LPN* field.
- Select one or more Dispositions for the manual Read. Click the >> button to the right of the field. Select the desired disposition(s) and click the << button to complete the selection.
- Click the *Save* button to finish saving the manual entry. The manual entry may not appear in the Dispatch screen, if "Manual Entries" device is not being monitored.

12.2.2. CORRECTING READS

There may be situations in which it is necessary for a dispatcher to manually adjust a Read. An example scenario would be a Read that missed a character due to an obstruction between the camera and the plate. A Read can be edited from the Dispatch screen of the BOSS application.

- In the Dispatch Screen, double-click on the read to be corrected. The Manual entry screen appears in the lower half of the browse/edit area.
- Enter the plate characters in the *LPN* field.
- Select one or more Dispositions for the manual Read. Click the >> button to the right of the field. Select the desired disposition(s) and click the << button to complete the selection.
- Click the *Save* button to finish saving the corrected entry.

13. QUERYING STORED DATA

The BOSS3 application allows for accessing data via a Quick Search function (for simple searches), the [Reads](#) section (for advanced queries of all Reads records) and the [Reports](#) section (for various data). This section will cover these areas of the application that allow searching or querying BOSS data.

13.1. WILDCARDS

Wildcards are special characters that represent any/all potential character and can be used in searches and queries. Wildcards can make finding a match easier, as they can define a portion of the match criteria to be ambiguous. Wildcards used in BOSS3 are the percent sign (%), the asterisk (*) and underscore (_). The percent sign and the asterisk match multiple characters. The underscore matches only a single character. To match multiple letters, use square brackets ([and]).

Wildcard Examples:

Wildcard use	Represents
a%	Any values that start with the letter "a"
a	Any values containing "a"
%	Any/all values
a_	Any values that are exactly two characters long and start with "a"
_a*b	Any values that have "a" as the second letter and end with "b"
[abc]*	Any values that start with "a", "b" or "c".

13.2. QUICK SEARCH BAR

The Quick Search Bar is always visible and available on the top of the BOSS screen, regardless of category or shortcut currently selected. It allows for quick, simple searches of various BOSS data.

13.2.1. USING THE QUICK SEARCH BAR

- Type in the value to search in the *Look For:* field. This value can include wildcard values. Multiple values can be entered separated by a comma (e.g. ABC123, XYZ234), however, wildcard values cannot be used when searching for multiple values.
- Select a data type to search in the dropdown list. (Options include: Reads, Hotlists, Users, Groups, Group Users, Devices and Sites.)
- Click the *Find* link to initiate the search.
- Search results are displayed in the browse/edit area of the screen.

13.3. QUERY RESULT NAVIGATION LINKS

The links at the top right of the screen allow for moving through the data results. These controls can be very useful for larger result sets, providing an easier way to move through records without using the scroll button.

First	Moves to the very beginning of the data results (first record).
<<Prev	Moves one record back.
Next>>	Moves one record forward
Last	Moves the very end o the data results (last record).
New Search	Use to clear the results page and return to the query parameters screen.

To clear results from a Quick Find, click the *Clear* link to the right of the search entry fields.

13.4. QUICK SEARCH FIELDS

When performing a query using the quick search feature, keep in mind that the search is performed on one significant field of the data type; the search is run against the significant field, not all fields. For example, when performing a quick search on Users, the text entered is compared against the user name field of all user records, but not against the display names. The following is a list of the fields used in Quick Search:

Data Type	Field used for Search
Reads	LPN
Users	Login Name
Groups	Group Name
Site	Site Name
Hotlists	Hotlist Name
Group Users	Group Name
Devices	Device Name

13.5. ADVANCED READS QUERIES

Reads can be viewed real-time using the Dispatch screen. For information regarding viewing Reads real time, see the Dispatch section of this manual.

13.5.1. QUERYING READS

Reads screen allows for searching and viewing past Read records. Reads can be searched via a quick search where the LPN/Plate number is queried. The Reads section allows for more advanced Read queries, in which data can be filtered based on additional fields such as date ranges, location, radius, near address, etc.

13.5.2. ADVANCED READS QUERY

To perform an advanced reads query:

- Select the *Home* Category on the Shortcut bar (if not already selected.)
- Click the *Reads* shortcut icon.
- Enter desired query criteria. All fields do not have to be filled in. Leaving a query field blank simply defines no filtering on that field.
- Click the *Go* button to run the query.

-OR-

- Click the *Append* button to add the query results to a previous query.

-OR-

- Click the *More* button to retrieve more reads using the same query.

Note: Depending on factors such as the size of the BOSS database, the speed of the server and the bandwidth of the connection between client and server and the parameters of the query, there may be a delay before the results are displayed. A cursor hourglass indicates that the query is in progress.

13.5.3. ENTERING ADVANCED READS QUERY CRITERIA

The query criteria fields are:

- LPN** Full or partial (using wild cards) license plate number. See section 13.5.4 for additional information.
- From Date** The start date and time for reads to be retrieved. Click on the ">>" button to display a calendar for quick selection, or type in the date as desired.
- To Date** The end date and time for reads to be retrieved. Click on the ">>" button to display a calendar for quick selection, or type in the date as desired.
- Location** The location as entered in the PAGIS application (see *PAGIS User's Manual* for more information).
- Near Address** An address to use as the center of a radius search. The address format depends on the mapping system used but typically street name, house number, city and state are required.
- Radius** When near address filter is entered, the search radius from the center point **must be** entered here.
- Servers** Information can be queried from one or more remote BOSS servers. Click on the ">>" button to display a calendar a list of authorized BOSS servers.

There is a set of additional criteria that can be used. Click *Advanced* to display the additional options.

Hits Only When checked only hits are queried.

Misreads Only When checked only reads that are marked as misreads are queried.

Devices A query can be narrowed down to reads originating from particular devices. Click on the ">>" button to display a list of devices, and select the desired devices.

Users A query can be narrowed down to reads originated by particular users. Click on the ">>" button to display a list of users and select the desired users, or type in the user's login name.

Dispositions A query can be narrowed down to reads with particular dispositions. Click on the ">>" button to display a list of dispositions and select the desired dispositions.

Annotation Contains
If text is entered in this field, only reads that where the annotation contains the text are queried.

Maximum # of Results
The maximum number of reads that are displayed. The default is 100.

Note: If there are more reads that can be retrieved, additional reads can be retrieved by clicking on the *More* button.

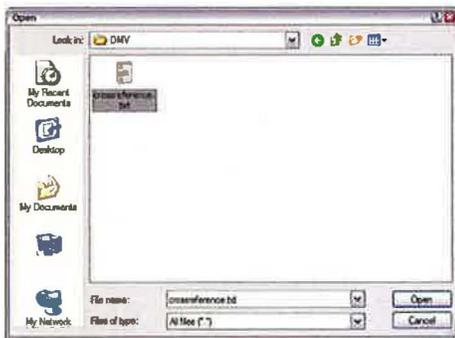
13.6. CROSS-REFERENCING EXTERNAL DATA

BOSS allows cross-referencing external data, such as DMV information. To query BOSS based on external information, take the following steps:

- Create a comma-delimited text file containing the license plate numbers to be cross-referenced. **The license plate number must be in the first field.**
- Open the Advanced Reads Query panel.
- Click on the >> arrows next to the LPN field.



- From the "Open" dialog, select the comma-delimited file containing the plate numbers.



- Click "Open" to import the plate numbers. A maximum of 50 plate numbers can be referenced at a time. Imported plate numbers will show up in the LPN field:



- Enter other query criteria as needed and click "Go" to run the query.

13.7. WORKING WITH QUERIED READS

13.7.1. VIEWING QUERY RESULTS

The results of both Quick Search and Advanced Reads Queries are presented in the same manner:



The columns displayed are:

LPN	The plate text (characters) read in by a camera or manually entered by a user.
Timestamp	The date and time when the read occurred.
Patch	The grayscale picture of the license plate.
Overview	The color overview picture of the vehicle.
Device	The device that originated the read.
Site	The site that originated the read.
Hit	Indicator whether the read is a hit.
Misread	Indicator whether the read was marked as a misread by a user.
Manual	Indicator whether the read was entered manually.
Login	The login name of the user logged into the device that originated the read.
Latitude	The latitude coordinate of the device at the time the read was originated.

Longitude The longitude coordinate of the device at the time the read was originated.

Hotlist The name of the hotlist that produced the hit.

Field1 ... Field5, PCNID, Information
Information from the hotlist that produced the hit.

Annotation Annotations entered for the read.

13.7.2. **QUERY RESULTS ACTIONS**

There are several button options available at the bottom of the Reads Query results screen.



New Search Initiates a new search.

Hide Images Use to remove the image columns (patch and overview) from the view. This will provide more room for text fields. Notice that when the Hide Images button is clicked, the button caption changes to "Show Images". The button can be clicked again to redisplay images again.

Plot on Map Click to show any selected Read records shown on map on the screen. One or multiple records can be selected for plotting on map. To select one or more records, click the checkbox on the far left of the record so that the box is checked. To select all of the results records at once, click and check the checkbox in the headings column.

Detail Report Click to generate a detailed report of selected reads. To select one or more records, click the checkbox on the far left of the record so that the box is checked. To select all of the results records at once, click and check the checkbox in the headings column.

Summary Report Click to get a summary report of selected reads. To select one or more records, click the checkbox on the far left of the record so that the box is checked. To select all of the results records at once, click and check the checkbox in the headings column.

Save Query Click to save the query criteria as a Favorite for future use. See Favorites for more information.

13.7.3. VIEWING READ DETAILS

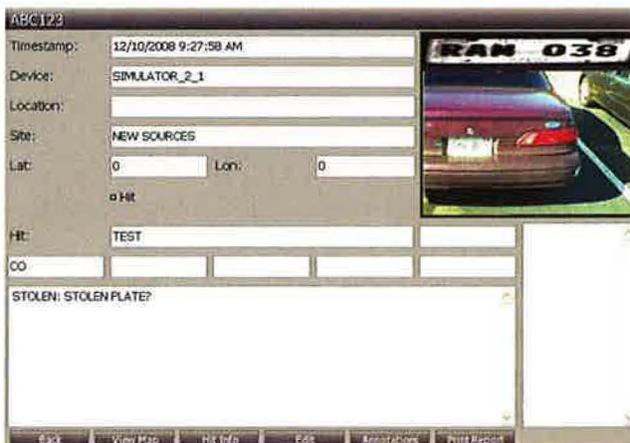
Click a row in the query results to view details for the record.



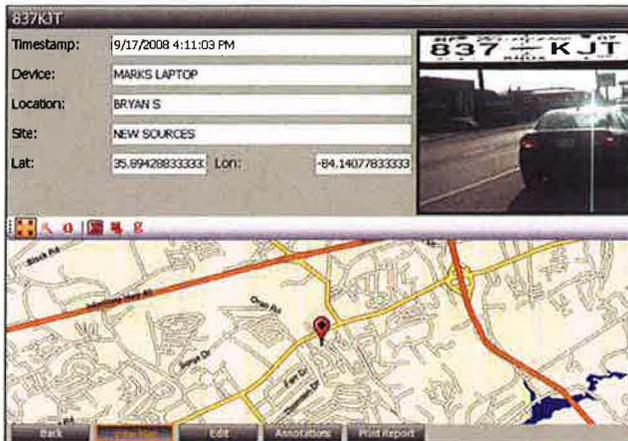
Read Details screen displays the plate read in the title, timestamp, originating device, site and geographical coordinates. The plate patch and vehicle color overview image are shown on the right.



The vehicle color overview picture can be enlarged by clicking on the picture. Use mouse scroll wheel or cursor up and down keys to enlarge or shrink the image. Left click on the enlarged image to dismiss from the screen. **Right click on the image to copy the image to Windows Clipboard.**



If the read is a hit, details of the hit can be displayed by clicking on the "Hit Info" button at the bottom of the screen.



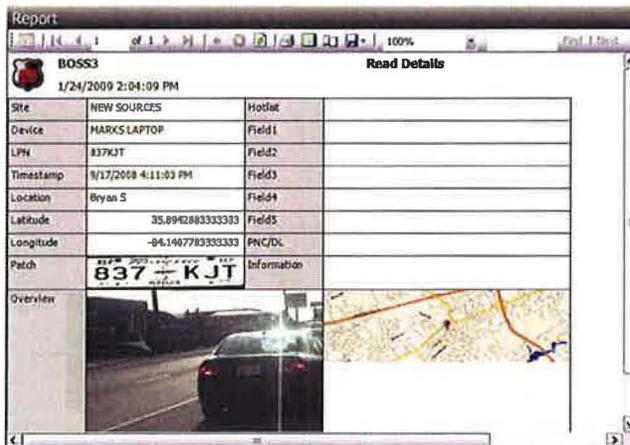
The map displaying the location where the read occurred can be displayed by clicking on the "View Map" button.



Use the "Edit" button to correct the plate text and/or assign a disposition to the read. Click on "Save" to save the changes. To associate annotations (notes) with the read, click on the "Annotations" button.



Annotations associated with the read can be viewed by clicking on the "Annotations" button.



A summary report can be printed by clicking on the "Print Report" button.

13.8. FAVORITES

Favorites are saved Read Query criteria. Query criteria can be saved as favorites and reused over and over again. This allows the user to quickly perform frequently needed queries without the need to define the parameters each time. Favorites are specific to each user.

13.8.1. CREATING A NEW FAVORITE

- Select the *Home* on the Shortcut bar to access its shortcut icons.
- Click on the *Read* shortcut icon.
- Enter desired query parameters in the browse/edit area (e.g. data range, location, radius, servers, etc.)
- Click the *Go* button to run the query.
- When the query results window appears, click the *Save Query* button.
- A dialog box will appear prompting for a name. Enter a descriptive name for the new Favorite.
- Select the *Use Relative Date Range* option if desired.
- Click *OK* to complete.

The query definition is now saved as a Favorite and can be accessed at any time.

Use Relative Date Range Option

Rather than using the specific dates that were entered when defining the query settings, date range will be calculated based on the current date at the time the query is run.

Relative Date Range Example: Consider a Query is saved as a Favorite and originally defined on 8/9/2008 to search Reads between 8/02/2008 and 8/8/2008 (the prior week). If the Relative Date Range option is selected, the query is saved to always run against the prior week rather than those actual dates. If the Favorite is invoked on 12/3/2008, it will return results from 11/26/2008 thru 12/2/2008.

13.8.2. ACTIVATING A FAVORITE

- Select the *Home* category in the shortcut bar (if not already selected).
- Click the *Favorites* shortcut.
- A listing of all favorites is displayed in the browse/edit area.
- Click the desired Favorite. (The selected favorite will be highlighted in yellow)
- Click the *Go* button in the bottom area of the browse/edit area.
- The query results will appear in the browse/edit area.

Note: Depending on factors such as the size of the BOSS database, the speed of the server and the bandwidth of the connection between client and server and the parameters of the query, there may be a delay before the results are displayed. A cursor hourglass indicates that the query is in progress.

13.8.3. DELETING A FAVORITE

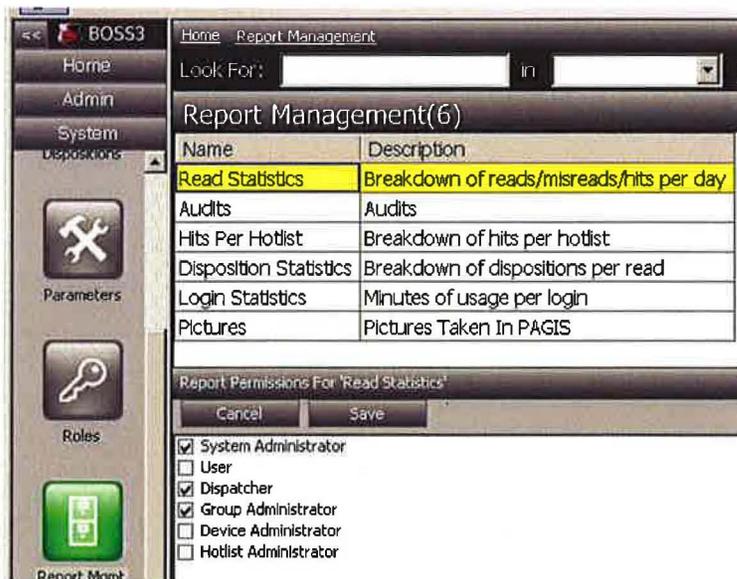
- Select the *Home* category in the shortcut bar (if not already selected).
- Click the *Favorites* shortcut.
- A listing of all favorites is displayed in the browse/edit area.
- Click the desired Favorite. (The selected favorite will be highlighted in yellow)
- Click the *Delete* button in the bottom area of the browse/edit area.
- Press *Yes* to confirm deletion.

14. REPORTS

Several reports are included, automatically, with a new BOSS 3 installation. These reports are available for use as soon as a BOSS administrator assigns Role permissions to the reports.

14.1. ASSIGNING PERMISSIONS TO ACCESS REPORTS

- Select the *System* category on the shortcut bar.
- Click the *Reports Mgmt* shortcut.
- The Browse/Edit area will display a list of available reports.
- Select a report by double clicking the name in the list. (The selected report will be highlighted in yellow)
- Report permissions for the report display in the bottom of the browse/edit area. Each BOSS Role is listed along with a checkbox. Click a Role in the list to select. Click a second time to change an unchecked box to checked.
- After selecting the desired permissions for the report, click the *Save* button.



14.2. RUNNING A SYSTEM REPORT

- Select the *Home* category on the shortcut bar.
- Click the *Reports* shortcut.
- The Browse/Edit area will display a list of available reports. (Reports to which the user does not have permissions are not displayed.)

- Click the desired report. (The selected report is highlighted in yellow.) Parameters for the report appear in the bottom of the browse/edit area.
- Select Date Range: All reports call for a *From Date* and *To Date* to define the time range for the report data. By default, the values in these fields define a report for the most recent 2 weeks. You can change these dates by typing different information into these fields, using the up/down arrow keys to the right of the field or by clicking the >> button to the right of the field and selecting a date on the calendar and then clicking the << button.
- Some reports also allow for filtering report results by user(s). For example, the pictures report, which reports pictures taken in PAGIS, allows for defining one of more users to report on.
- Once desired parameters are selected for the report, click the Go button. The report screen immediately displays, indicating that the server is generating the report until results are displayed.

14.3. VIEWING AND PRINTING REPORTS

The Report screen displays the date and time the report was generated and the title of the report in the heading area. When you place your mouse above a shortcut on the Report shortcut bar, a label appears indicating what the shortcut button does. Note that some of the buttons on the shortcut bar are not relevant to BOSS reports and are therefore disabled.

The Report Results Shortcut bar



First Page	Return to first page of report
Previous Page	Go to the previous page of report
Page input box	Type in a particular page number to bring up on screen
Next Page	Go to next page of report
Last Page	Go to last page of report
Stop Rendering	This button can be used to cancel the report processing. This can be helpful if a large report was initiated, but is no longer desired.
Refresh	Refresh the report using the most current BOSS data.
Print	Print the report
Print Layout toggle	Toggles between available print layouts.

Page Setup Allows for standard page setup such as page orientation, paper size, etc.

Save As – Excel/Adobe PDF

Allows for saving the current results to a Microsoft Excel (.xls) or Adobe Portable Document Format (.pdf).

Width Zoom Setting Dropdown allows selecting a zoom view for the report results on the screen.

15. SYSTEM SETTINGS

15.1. SYSTEM PARAMETERS

System Parameters allow for configuration parameters for a BOSS system. System parameters only need to be configured during initial system configuration and normally do not need to be modified again after that.

15.1.1. EDITING SYSTEM PARAMETERS

- Select *System* from the left shortcut bar.
- Click on the Parameters button in the shortcut bar.
- Click on the desired parameter in the right browse/edit window. The bottom pane of the browse/edit window will display the entry field for the selected parameter.
- Modify the parameter value as desired and click the *Save* button.

15.1.2. LIST OF BOSS SYSTEM PARAMETERS

Last SQL Script This field is used to track updates to the SQL Server Database schema. It can be incremented at each SQL schema update.

Proxy_uri/proxy_username /proxy_password/proxy_domain

These settings are only necessary if there is a proxy server involved that requires authentication for connection. Enter a valid Uniform Resource Identifier (URI), username, password, and domain in the associated fields to allow communication through the proxy server. Consult the network administrator for proxy authentication information

smtp_SenderName In order for the BOSS server to send alerts to email addresses, the SMTP settings must be configured correctly. The SMTP sender field should contain the username that will appear in the from field on an email generated by the BOSS system.

smtp_UserName/smtp_password

The SMTP username and password fields should contain a valid SMTP user and associated password for sending alerts through the SMTP (email) server. These fields must be populated properly in order for the BOSS system to send any alerts to email addresses. Normally a BOSS administrator coordinates with his SMTP administrator to create a special SMTP user that will be used exclusively for BOSS alerts.

smtp_SSL If Secure Sockets Layer (SSL) is used on your SMTP server, the value of this field should be set to 1. Otherwise, it should be set to 0.

smtp_Server The name or IP address of the SMTP server should be entered here. The name or address used here must be one by which the SMTP server can be reached from the BOSS server. This field must be populated correctly in order for the BOSS system to send any alerts to email addresses.

smtp_SubjectTemplate /smtp_AlertTemplate-

These fields allow a BOSS administrator to customize the verbiage in an alert email subject line and message body using any combination of static text and field variables from the Hit that generated the alert. Each field (from the Hit) is enclosed in brackets.

smtp_SubjectTemplate

Sets the subject line of alert emails generated by BOSS while the **smtp_AlertTemplate** affects the text in the body of the alert email.

For Example:

The following entry in the smtp_SubjectTemplate field incorporates both static text and a BOSS field variable as well: BOSS alert from [SRC].

The static text "BOSS alert FROM" will always be constant in each SMTP alert. However, the value of [SRC] will vary depending upon from which source device the HIT originated. If the Hit originated from a source device named "Camera2", for instance, the complete subject would read: "BOSS alert from Camera2".



The following tokens can be used in the templates and for each individual alert they will be replaced with the actual value from the Hit record:

Token	Description
[LPN]	license plate
[STE]	site
[SRC]	device
[LOC]	location
[LAT]	latitude
[LON]	longitude
[HOT]	hotlist name
[FD1]	field1
[FD2]	field2
[FD3]	field3
[FD4]	field4
[FD5]	field5
[PNC]	PNCID/DL
[INF]	information
^	new line

15.1.3. BRANDING

BOSS allows the BOSS Administrator to upload a logo image and a welcome message that is displayed to BOSS users on the Home screen. To define these,

- Select *System* from the left shortcut bar.
- Click on the Parameters button in the shortcut bar.
- Click on "Branding"

The following screen will be displayed.



Browse Select an image file (JPEG, GIF, BMP) to be displayed on the home screen. The largest recommended image size is 120 by 380 pixels.

Default Remove the custom logos and texts.

Welcome Message A custom welcome message can be typed in here.

- Click OK to save changes or Cancel to discard changes.

15.2. SESSIONS

The Sessions screen allows for viewing the current BOSS user logins. Each login on each computer utilizes a concurrent license of the software. Since BOSS is licensed per concurrent active session, a BOSS administrator may find it necessary to have a session disconnected in order to release a session license. A BOSS admin can force a session disconnect in the Sessions screen.

Note: BOSS allows a single 'admin' login to access BOSS even if the number of concurrent sessions has been exhausted. Please see section 4.1 (BOSS Administrator Login) for more information about the 'admin' login.

15.2.1. VIEWING AND DISCONNECTING SESSIONS

- Select the *System* category on the shortcut bar.
- Click the *Sessions* shortcut. A listing of current login sessions appears in the Browse/Edit area.
- The heading in the Browse/Edit area indicates the total number of current sessions.
- Click on a session to see details in the bottom half in the Browse/Edit area.
- To disconnect, click the *Disconnect* button that appears in the detail area and click OK.

Note: You cannot disconnect your own session in this manner. To disconnect your own session simply logoff from the BOSS application.

Name	Machine Name	IP Address	Created	Last Access
HSmith	PC100003	10.10.7.7	10/6/2008 9:11 PM	10/7/2008 7:30 AM
LLewis	PC23450	10.10.6.5	10/6/2008 9:58 AM	10/7/2008 7:30 AM
JMLee	PC34567	10.10.35.8	10/6/2008 9:11 PM	10/7/2008 7:30 AM
LT.Trey	LAPTOP12	10.10.6.32	10/6/2008 9:58 AM	10/7/2008 7:30 AM
BYagen	PC56789	10.10.8.65	10/6/2008 9:11 PM	10/7/2008 7:30 AM
admin	SRV-BOSS1	10.10.6.44	10/6/2008 9:58 AM	10/7/2008 7:30 AM
ccamp	PC1200	10.10.7.32	10/6/2008 9:11 PM	10/7/2008 7:30 AM
admin	PC2223	10.10.6.12	10/6/2008 9:58 AM	10/7/2008 7:30 AM
gseam	LAPTOP10	10.10.8.74	10/6/2008 9:11 PM	10/7/2008 7:30 AM
bmarsh	LAPTOP1	10.10.6.52	10/6/2008 9:58 AM	10/7/2008 7:30 AM
phodge	PC4312	10.10.7.34	10/6/2008 9:11 PM	10/7/2008 7:30 AM
rherrera	LAPTOP7	10.10.8.46	10/6/2008 9:58 AM	10/7/2008 7:30 AM

15.2.2. WORKSTATION POWER MANAGEMENT AND SESSIONS

Using Windows Power Management to hibernate or suspend a workstation running the BOSS 3.0 Smart Client will cause the session in BOSS to be terminated after five minutes. When the workstation is resumed from hibernation or suspended state, the user will have to log in to BOSS again.

15.3. DISPOSITIONS

Dispositions are pre-defined classifications that can be assigned to Hits. Example dispositions might include (Arrest Made, vehicle recovered, surveillance established, etc.) A BOSS administrator is able to define any number of dispositions for her system. Users can then use those dispositions to specify the action taken or the status of the Hit. A new BOSS3 system will have a default disposition of "No Action".

15.3.1. DEFINING A NEW DISPOSITION

- Select the *System* category on the shortcut bar.
- Click the *Dispositions* shortcut. A listing of all current Dispositions appears in the top of the browse/edit area.
- Click the *New* Button in the bottom of the browse/edit area.
- Enter a *Name* for the disposition.
- Enter a *Description* for the new disposition.
- Specify a *Priority* for the disposition. (A lower number means greater priority.)
- Select the *Back Office Only* option if the disposition should not be available only in the *Correct Reads* screen in BOSS, and not exposed in PAGIS.

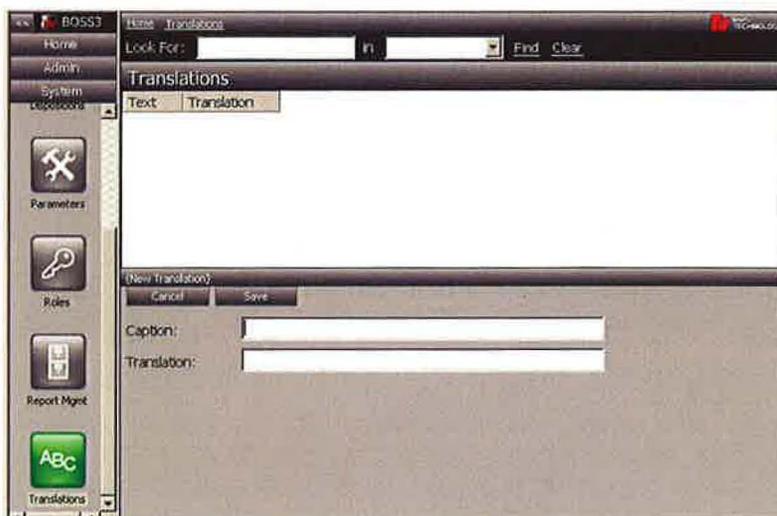
15.3.2. DELETING A DISPOSITION

- Select the *System* category in the shortcut bar (if not already selected).
- Click the *Dispositions* shortcut.
- A listing of all dispositions is displayed in the browse/edit area.
- Click the desired Disposition. (The selected disposition will be highlighted in yellow)
- Click the *Delete* button in the bottom area of the browse/edit area.
- Press *Yes* to confirm deletion.

15.4. TRANSLATIONS

Across various organizations and agencies, terminology related to BOSS can differ significantly. For this reason, a new function has been added in BOSS version 3 that gives customers flexibility in naming conventions used in the application. The Translations function provides for changing wording on BOSS screens allowing a customer to tailor screen labeling to correspond to their own vernacular. Text items in the translations editor correspond to labels on BOSS screens. Authorized users can change these text items as necessary.

Note: This feature is not intended as a replacement for language specific versions of BOSS. For international versions of BOSS, please contact PIPS Technology.



15.4.1. ENTERING A NEW TRANSLATION

- Select the *System* category on the shortcut bar.
- Click the *Translations* shortcut. A listing of all current translations appears in the top of the browse/edit area. The new translations entry screen appears in the bottom area.
- Enter an existing label from the BOSS application in the *Caption* field, using exact case and spelling that normally appears on the screen.
- Enter the desired replacement text in the *Translation* field.
- Click the *Save* button to complete the operation.

Note: The user must logout and log back in for translation to take effect in current session.

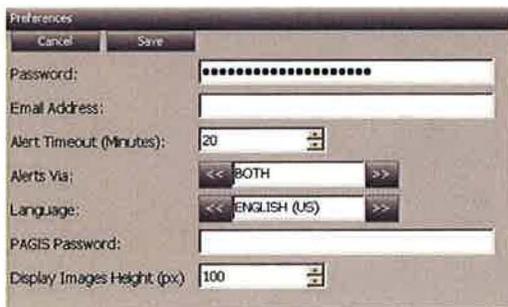
For example: A customer preferring to see a label of "Plate" where the software normally uses the term "LPN" would use the translations software to create the replacement for their installation. The translation entry caption field would contain, "LPN", while the Translation field would contain the replacement term, "Plate".

15.5. PREFERENCES

The preferences section allows for changing settings for the currently logged in BOSS user, such as passwords and email address as well as other options pertaining to the user.

15.5.1. CHANGING USER PREFERENCES

- Select the *Admin* category on the shortcut bar.
- Click the *Preferences* shortcut. The preferences entry screen appears at the bottom of the Browse/Edit area.
- Modify the preferences settings as desired and click the *Save* button.



Password Login password for BOSS user. For security purposes, the existing password does not display on screen.

Email Address Email address or addresses associated with the user. BOSS alerts for the user are sent to the email addresses specified here. Multiple addresses should be separated with a comma or a semicolon.

Alert Timeout (Minutes) The cutoff time for older Hits to alert the user.

Alert Via A user can elect to receive BOSS alerts through the application ([Dispatch](#)), email, or both mediums.

Language Language preference for the user. Default value is English.

PAGIS Password The PAGIS password for the user. **Note:** *The user must be in a Group that has been granted PAGIS permissions in order for the user login to PAGIS.*

Display Images Height (px) This setting defines the size of the images (Reads and Hits) that will display for the user in the Dispatch and Reads Query sections. APPENDIX A – Third Party Components Licensing Terms

16. GLOSSARY

ALPR	Automatic License Plate Recognition
Read	A license plate detection event that results in the plate text optical recognition and pictures being taken.
Hotlist	A list or database of license plates of interest, e.g. the NCIC database.
Hit	A match on a plate read against a hotlist.
Misread	A read that was marked as a misread by a user.
Disposition	The classification of a hit; e.g. a recovered stolen vehicle.
Mobile Unit	An ALPR system installed in a (patrol) vehicle; PAGIS.
Fixed Camera	An ALPR camera permanently mounted above a roadway; Spike/Spike+/SpikeHD.
Device	A source of ALPR data; PAGIS or Spike.
Site	A group of related devices.
User	An authorized BOSS user (with a login name).
Group	A group of BOSS users that belong together administratively.
Permission	A set of related functionality in BOSS.
Role	The authorization to access functionality in BOSS.
Deployment	The distribution or making available of a hotlist to a device.
Notification	Propagation or delivery of an alert resulting from a hit.

17. KNOWN ISSUES / TROUBLESHOOTING TIPS

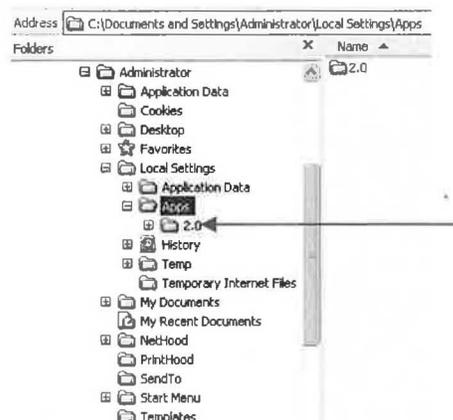
Cingular / AT&T Connection Manager or PCS Connection Manager

There is a known issue with ByteMobile Optimization Client (Bmwebcfg.exe) often installed by Cingular / AT&T Connection Manager software used with cellular modems. This software may cause BOSS service to crash, prevent web installation of the Smart Client, or prevent the Smart Client from connecting to BOSS server. ByteMobile has addressed this issue in ByteMobile Optimization Client v2.3. If you upgrade to this version, you may resolve the issue. Otherwise, please uninstall the software. For more information please see article online: <http://support.microsoft.com/kb/910435>

BOSS Smart Client Fails To Install With Web Deployment

If the BOSS Smart Client application fails to install when deployed through a web browser, the deployment can be reset on the workstation as follows:

Locate folder *Documents and Settings\username\Local Settings\Apps* where *username* is the login name of the logged in Windows user. Delete the folder and try to launch the Smart Client again.



Smart Clients Cannot Connect to BOSS or Response Times Are Slow, Antivirus Installed On Server

Antivirus and network filtering utilities, such as Symantec Endpoint Protection can prevent the BOSS server or the Smart Client from communicating with each other, and can degrade database access speed. If you are experiencing such problems, please disable the antivirus and/or network filtering utilities temporarily. If the problem disappears when anti-virus is disabled, please contact the utility vendor for a workaround.

Login Fails, Net.Tcp Port Sharing Service Stops Abruptly On A Dell computer

On Dell machines the Wave Systems EMBASSY Trust Suite is known to cause the .Net TCP Port Sharing service to crash. If this is the problem, try installing the .NET hotfix from <http://support.microsoft.com/kb/923028>. If this does not resolve this issue, uninstall the Wave Systems EMBASSY Trust Suite software.

APPENDIX A. THIRD PARTY LICENSED COMPONENTS

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Version 2.1, February 1999

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