impro technologies®

ImproNet Software

QUICK START GUIDE

Scope of Document

This document gives a brief overview of the ImproNet System.

Document Conventions

We use the following conventions in this document:

📄	*Note – points out extra information.*
💡	*Tip – points out alternative methods to perform a task.*
❗	*Important – points out important information.*
‼️	***Warning – points out potential danger to you or the product.***

Before You Begin

Have the following available:

- An active Ethernet connection (using a standard Ethernet Cable) to the Controller and IP Terminals.
- The ImproNet Software Suite V7.66.
- The MAC Address and Fixed Address of each ImproX ECII Controller – on a label bundled with the Controller.

Installation

1

ImproNet Software Installation Procedure

Install the ImproNet Software Suite on a single Host PC as follows:

1. Insert the ImproNet Installation CD into the CD-ROM drive.
2. Select the **Install ImproNet Suite** option.

> *If the CD does not start up automatically, browse the CD in Windows® Explorer and double-click Setup.exe.*

3. Select **English** as the language option.
4. Click the **OK** button.

> *If no Database Server is present, one is installed. Follow the onscreen instructions for this.*

5. At the Introduction screen, click **Next**.
6. At the Licence Agreement screen, select the **I Accept the Terms of the Licence Agreement** radio button.
7. Click the **Next** button.
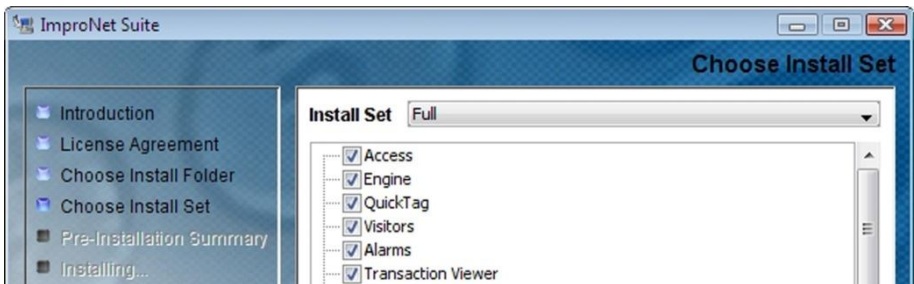8. At the Choose Install Folder screen, click **Next**.

Figure 1 – Install Set Menu

9. At the Choose Install Set screen, from the **Install Set** drop-down list, make your preferred installation type selection.

> *An Install Set is a collection of pre-selected applications suitable for specific scenarios. Customize an Install Set option by selecting or de-selecting applications from the list.*

10. Click the **Next** button.
11. Click the **Install** button.
12. At the Install Complete dialog, click the **Done** button.

Installing the Database Server

A Database Server is required to host the ImproNet Database. If the ImproNet Suite is installed on to a single PC, the Database Server installs automatically. However, if more than one PC is used to host the ImproNet Software, you must install the Database Server manually.

> **You need not install Firebird if you are using SQL Server.**

Installing the Firebird Database Server

> *Firebird automatically prompts to install, if a previous version is not detected.*

1. Insert the ImproNet Installation CD in the PC's CD-ROM drive.
2. Browse to the **\database\firebird** directory on the ImproNet Installation CD.
3. Double-click **Firebird.exe**.
4. In the Select Language Setup dialog, from the drop-down menu, select your preferred **language**.
5. Click the **OK** button.

Firebird Installation Wizard

1. At the Welcome dialog, click the **Next** button.
2. At the Licence Agreement dialog, select the **I Accept the Agreement** radio button.
3. Click the **Next** button.
4. Review the Information dialog, and then click the **Next** button.
5. In the Select Destination Location dialog, select the **Destination Directory**—we recommend that you use the default location of **C:\Program Files\Firebird\Firebird_1_5**.
6. Click the **Next** button.
7. From the drop-down menu, select the **Full Installation of Super Server and Development Tools** option.
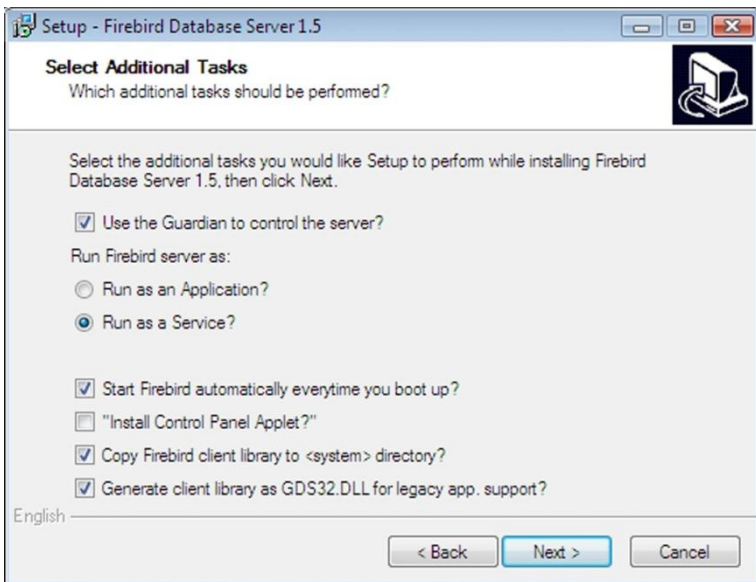8. At the Select Start Menu Folder screen click **Next**.

Figure 2 – Firebird Select Additional Tasks

‼️ *In Windows® Vista installations, ensure that you de-select the "Install Control Panel Applet?" option.*

9. On the Select Additional Tasks screen:
   - Select the **Use the Guardian to Control the Server?** option.
   - Select **Run as a Service?** option.
   - Select the **Start Firebird Automatically Everytime You Boot Up?** option.
   - Select the **Copy Firebird Client Library to <System> Directory?** option.
   - Select the **Generate Client Library as GDS32.DLL for Legacy app. Support?** option.
10. Click the **Next** button.
11. Click the **Install** button.
12. Review the Information dialog and then click the **Next** button.
13. Click the **Finish** button.

Installing the Microsoft SQL Server 2005 (Standard Edition) Database Server

1. Run **Disk 1** of the Microsoft SQL Server 2005 Software.
2. At the Start dialog, under Install, select **Server Components, Tools, Books Online and Samples**.
3. At the End User Licence Agreement dialog, select the **I Accept the Licensing Terms and Conditions** checkbox.
4. Click the **Next** button.
5. At the Installing Prerequisites dialog, click the **Install** button.
6. On successful installation of the prerequisite components, click the **Next** button.

Microsoft SQL Server Installation Wizard

1. Click the **Next** button.
2. At the System Configuration Check dialog, click the **Next** button.
3. In the Registration Information dialog, fill in the required details. These include:
   - **Name**
   - **Company**
   - **Product Key**

4. Click the **Next** button.
5. In the Components to Install dialog, select the components for installation.
6. Click the **Next** button.
7. In the Instance Name dialog, select the **Default Instance** radio button.
8. Click the **Next** button.
9. In the Service Account dialog, select the **Use a Domain User Account** radio button.
10. Complete the **Username**, **Password** and **Domain** textboxes.
11. From the Start Services at the End of Setup pane, select the **SQL Server** checkbox.
12. Select the Analysis **Services** checkbox.
13. Click the **Next** button.
14. At the Authentication Mode dialog, select the **Mixed Mode** checkbox.
15. Complete the **Enter** and **Confirm Password** textboxes.
16. Click the **Next** button.
17. At the Collation Settings dialog, click the **Next** button.
18. At the Error and Usage Report Settings dialog, click the **Next** button.
19. At the Ready to Install dialog, click the **Install** button.
20. At the prompt, insert **Disk 2** into the drive and click the **OK** button.
21. When all Products show their Status as "Setup Finished", click the **Next** button.
22. At the Completing Microsoft SQL Server 2005 Setup dialog, click the **Finish** button.

> *After installation, you may install the latest service pack for Microsoft SQL Server 2005 by following the on-screen prompts.*

> *For full instructions on creating a SYSDBA Login Account and Configuring Microsoft SQL Server for ImproNet, refer to the WebHelp under **Part 2 – Software**.*

Installing the USB Registration Interface's USB Driver

ImproNet uses a USB Registration Reader Interface to read Tags. Some Interface versions also provide an RS485 communication link to the Controllers. To install the driver, proceed as follows:

> ⚠️ *If there are old USB Drivers on the PC, remove them **before** installing the provided driver.*

1. Plug the **USB Registration Interface** into a USB port on the PC. The **Found New Hardware Wizard** displays.
2. Follow the onscreen instructions. In some cases, two drivers install; one for the **USB Registration Reader** and one for the **COM port to USB Bridge**. Therefore, the Wizard pops up twice.

In **Windows® XP**, proceed as follows:

1. The second time the wizard pops up, select **Install From a List or Specified Location**.
2. Click **Next**.
3. Select **Search for Best Driver in these Locations** and select **Include this Location**. The Location specified should be the **USB_Device_Driver** folder.
4. Click **Next**. Ignore any *warning* dialog screen, if displayed.
5. Click **Finish**.

> 💡 *On some PC's, the **New Hardware Found** wizard displays every time you plug in a **USB Registration Reader Interface** with a new USB Serial Number (Fixed Address). If this happens, choose the option to automatically install the unit. The **New Hardware Found** wizard will not display again.*

2 Pre-configuration Procedure

After installing *all* Software components determine correct functioning of the hardware communication infrastructure by carrying out the following:

In Windows®, go to **Start**>**All Programs**>**ImproNet**>**Utils**>**Firmware Upgrade**.

RS485 Comms Infrastructure

Ping the Hardware
1. Select the **System Tools** tab.
2. Click the **Ping** button.

LAN Comms Infrastructure
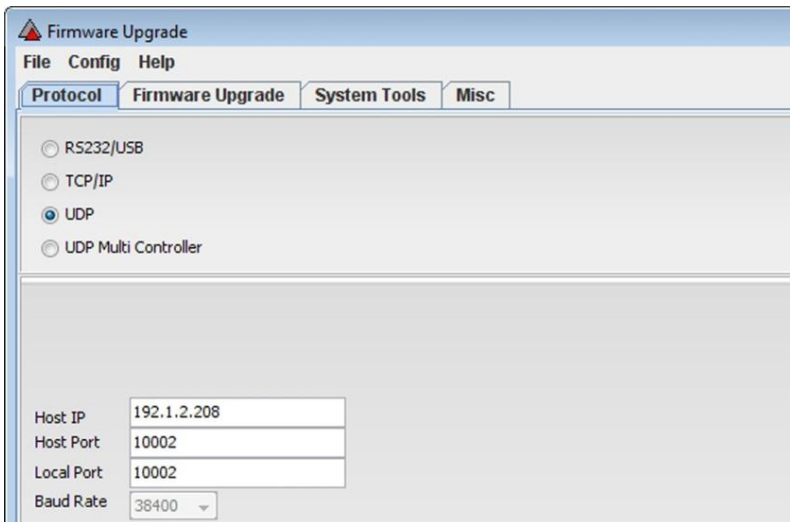
1. Select the Communications Port by selecting the **Protocol** tab.

Figure 3 – Protocol Settings Tab

2. Select one of the following radio buttons:
   - **RS232**—if you are using an ImproX HI or ImproX RH communications interface device, select the RS232 option and enter the relevant COM Port number. Also select the **RS232** option if using a **USB** connection.
   - **TCP/IP**—used where your Controller connects by Ethernet.
   - **UDP**—if you want to connect UDP to a single Controller.
   - **UDP Multi Controller**—if you want to connect many UDP devices as specified in the *udpmulti.csv* file.
3. Based on your selection made in step 2, complete the following activated fields:
   - **Host IP**—your Controller's IP Address.
   - **Host Port**—enter the default Host Port number of **10002**.
   - **Local Port**—enter the default Local Port number of **10002**.
   - **Baud Rate**—use the default **38 400**.
4. Click the **OK** button.

Discovery Utility

> *If your installation includes IP Terminals, review the section*
> ***Guidelines for Setup of IP Terminals (ImproX iTT or iTRT)***
> *on page 23 before proceeding further.*

View all Available Controllers and Terminals
To view all the Controllers and Terminals on the **local subnet**:

1. In Windows®, go to **Start**>**Programs**>**ImproNet**>**Utils**>**Ethernet Discovery Utility**.
2. On the menu bar, go to **Action**>**Search Local Subnet**.
3. If the Discovery Utility fails to find any Devices, at the **Device Not Found** dialog, click the **OK** button.
4. On the menu bar, go to **Action**>**Advanced Local Search**.
5. At the **Select Network Interface** dialog, select the relevant **Network Interface**, if more than one displays.

6. Click the ✅ button.
7. In the Enter Subnet Mask dialog, enter the **Subnet Mask** for your network.
8. Click the ✅ button.

On display of the Controllers and Terminals, the following icons appear: the 🟧 icon represents unlinked Controllers. The 🟦 icon represents Terminals and the 🟧▶ icon represents Controllers with linked Terminals. On expanding the Controller tree, the 🟧▼ icon displays, with the linked Terminals displaying below.

Grouping Controllers and Terminals
The purpose of the group name is for grouping Controllers with their dependent IP Terminals.

Creating a Group for a Controller and its Terminals:

> 📄 *It is unnecessary to give a group name to a Controller if it has no IP Terminals.*

1. Select the **Controller** and the **Terminals** it should control.
2. On the menu bar, go to **Configuration**>**Add to Group**.
3. In the **Enter Group Name** dialog, enter a suitable group name.
4. In the **Device Password** dialog, enter your **password**. The Controller's default password is **impro** and the Terminal's default password is **masterkey**. A password is required for each Controller and Terminal being added to the Group.
5. Click on the ✅ button.

Alternatively, add Terminals to Existing Controller Groups as follows:
1. Select the **Terminal(s)** to be added to the Group.
2. On the menu bar, go to **Configuration**>**Add to Group**.
3. In the **Select the Group Name** dialog, double-click on your chosen group name row.

4. In the **Device Password** dialog, enter your **password**. The default password is **masterkey**.
5. Click on the ☑ button.

Configure IP Addresses

> 📄 *If you do not know your Configuration Settings, contact your Network Administrator.*

> 📄 *If a DHCP server is present, IP Addresses can be dynamically assigned. If there is no DHCP server, obtain a suitable IP Address from your Network Administrator. A static IP Address is preferred for the Controller or Terminal.*

1. In the Discovery Utility window, select the **Controller** or **Terminal** for configuration.
2. On the menu bar, go to **Action**>**Configure IP**.
3. In the **Device Password** dialog, enter your **password**. The Controller's default password is **impro** and the Terminal's default password is **masterkey**. For improved security we recommend that you change this password, to a string of not more than 16 characters.
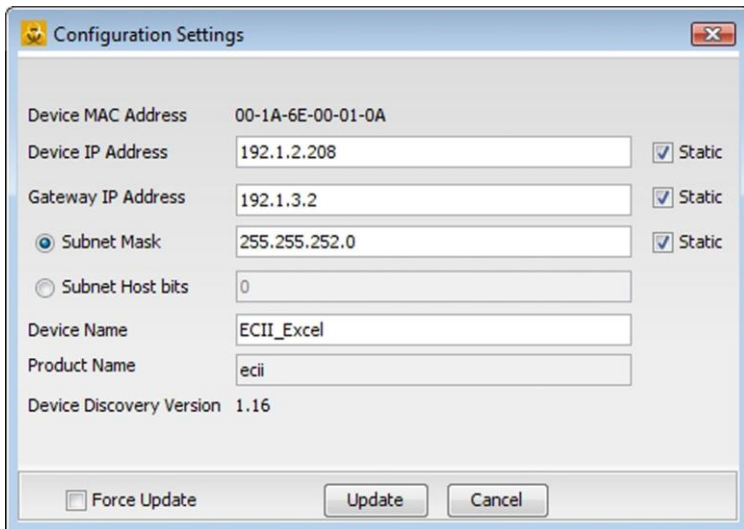4. Click on the ☑ button.

Figure 4: Configuration Settings Dialog

5. Assign the Controller or Terminal to EITHER a local or non-local Subnet as follows:

Assign the Controller or Terminal to a Local Subnet

> ⚠️ *If you assign an invalid IP Address, the Controller or Terminal may no longer be able to communicate. In this case restore factory defaults (Refer to the Hardware Installation Manual for more information).*

1. In the Device IP Address textbox, enter a **Device IP Address**.
2. Tick the checkbox to set the **IP Address** to static.
3. In the Gateway IP Address textbox, enter a **Gateway IP Address**.
4. Tick the checkbox to set the **Gateway IP Address** to static.
5. Continue with *ONE* of the procedures (Subnet Mask *or* Subnet Host Bits) below:

Subnet Mask

1. Select the **Subnet Mask** radio button.
2. In the textbox, alongside, enter the **Subnet's Address**.
3. Tick the checkbox to set the **Subnet Mask** to static.

Subnet Host Bits

1. Select the **Subnet Host Bits** radio button.
2. Enter the number of bits in the textbox.

6. Enter a **Device Name**, using the same **site prefix** to name devices belonging to the same site. For example: "**Site 1**–Factory", "**Site 1**–Testing".
7. Ensure the **Force Update** checkbox is **UNCHECKED**.

> !! *If the Force Update checkbox remains UNCHECKED, the Controller or Terminal tries to change the IP address and test communication on the new address. If successful, the update becomes final; otherwise, the Controller or Terminal reverts to its old settings.*
>
> *Changes to the IP Configuration result in the Controller or Terminal rebooting on acceptance of the change. The Configuration Settings dialog remains open during this time, allowing the Controller or Terminal to reboot. On closure of the Configuration Settings dialog, the Discovery Application again searches for the Controller or Terminal and if successful, displays the updated Controller or Terminal details.*

8. Click the **Update** button.

Assign the Controller or Terminal to a Non-local Subnet

> !! ***Only perform this action if you want to assign the Controller or Terminal to a non-local subnet. After performing the step, the Discovery Utility will NOT detect the Controller or Terminal on the local subnet. Therefore ensure that you assign the Logical Address BEFORE changing the IP Address. Finally physically move the Controller or Terminal to the required location.***

1. In the Device IP Address textbox, enter a **Device IP Address**.
2. Tick the checkbox to set the **IP Address** to static.
3. In the Gateway IP Address textbox, enter a **Gateway IP Address**.
4. Tick the checkbox to set the **Gateway IP Address** to static.
5. Select the **Subnet Mask** radio button.
6. In the textbox, alongside, enter the **Subnet's Address**.
7. Tick the checkbox to set the **Subnet Mask** to static.
8. Tick the **Force Update** checkbox (the Controller or Terminal adopts the new settings regardless).
9. Click the **Update** button.

> 📄 *After installing the Controller or Terminal in its new location, you can find it using the **Action**>**Search IP** menu option.*

Query the Logical Address
Display the Logical Address for the selected Controllers or Terminals in the LA column of the Utility.

1. In the Discovery Utility, select the **Controllers** or **Terminals** you are querying.
2. On the menu bar, go to **Configuration**>**Query LA**.

Assign a Logical Address

A new Controller or Terminal has the default Logical Address **FF**. To assign a new Logical Address:

> ⚠️ ***After making changes to the Controller or Terminal's Logical Address, ensure that you export the configuration file, for import into ImproNet Engine.***

1. In the Discovery Utility, select the **Controllers** or **Terminals** to be configured.
2. On the menu bar, go to **Configuration**>**Configure LA**.
3. Type the new hexadecimal **Logical Address** in the textbox.
4. Click the ✅ button to confirm.
5. Repeat steps 2 and 4 for each selected Controller or Terminal.

> 📄 *The same Logical Address should not be used more than once per Site. To prevent this, select all the Controllers and Terminals on a Site. Go to **Configuration**>**Query LA**. The Logical Addresses display in the LA column on the right-hand side of the table. Ensure that the Logical Address is not repeated.*

Export the Configuration File

Configuration information is made available as follows:

1. Select the **Controller(s)** to be added to a Site. Only necessary to select the Controller(s) as the grouped Terminal(s) automatically export with their grouped Controller.
2. On the menu bar, go to **File**>**Export IP Config**.
3. In the **Save** dialog, enter a file name.
4. Click on the **Save** button.

> 📄 *Make a note of the Configuration File's file name and location, as you must import this file when you configure ImproNet Engine.*

> 📄 *We recommend that you save the file in your ImproNet folder (default file name **discovery.txt**). We recommend you give the file a **site suffix** so that it associates with the correct site (for example: "Discovery - **site 1**.txt").*

Configure ImproNet Engine
Importing the Discovery Utility Configuration File

> ⚠️ *Using the Ethernet Discovery Utility, ensure that you assign the Logical Address to the Controller. Failure to do so results in the Import function failing for those units without Logical Addresses.*

Import the Discovery Utility configuration file as follows:

1. In Windows®, go to **Start**>**Programs**>**ImproNet**>**Engine**.
2. On the menu bar click **Configuration**>**Import Devices**.
3. Type in the location of the Discovery Configuration File OR click ⊡ to browse for the file.
4. Click the ✅ button.
5. Click **Yes** to confirm.

Activate UDP Communications
Activate the UDP communication option in ImproNet Engine as follows:

1. On the menu bar, click **Configuration**>**Engine Properties**.
2. Tick the **UDP comms** option.
3. Click the ✅ button to confirm.

3 Site Configuration Procedure

Hardware Auto-ID

⚠️ *In a new ImproNet installation (or where you install a "clean" Database), ImproNet prompts you in **selecting a Tag Type**.*

Before opening and using ImproNet Engine, in the Preference Configuration dialog, select from either of the following:

- *Option 1—the **Tag Type is Ignored when Validating a Tag (Any Tag)**.*
- *Option 2—The **Tag Type is Taken into Consideration when Validating a Tag**. This option is selected by default and is enforced if you cancel the operation and proceed direct to ImproNet Engine.*

⚠️ *Stop ImproNet Engine before carrying out Auto-ID.*

You can perform the **Auto-ID** process at any time. During an Auto-ID, the Engine polls attached Controllers and Terminals, identifying their **type** and **Logical Address**. Run Auto-ID as follows:

1. In Windows®, click **Start**>**Programs**>**ImproNet**>**Engine**.
2. Click the 🔴 Auto ID button.

📄 *Once allocated a Logical Address is never changed. This ensures continuity in the ImproNet Database.*

Open ImproNet Access

1. In Windows®, click **Start**>**Programs**>**ImproNet**>**Access**.
2. Enter your **Username** and **Password**. The default username is **SYSDBA** and the default password is **masterkey**.

Adding a Site

1. In the Navigator Pane, click the ▦ icon.
2. In the Main Pane, click the ➕ button thus adding a new Site to the Hierarchical Tree.

Controller Configuration - Assigning Terminals to Zones and Locations

The first step in configuring your Controller is to assign its Terminals to Zones and Locations. Terminals must be manually assigned to a Controller before they can be configured for Zones and Locations. Unassigned Terminals are terminals that the Auto-ID process has identified, but not assigned to a Location.

To assign Terminals to a Controller, proceed as follows:

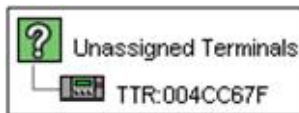1. In the Navigator Pane, select a Controller.

Figure 5 – Unassigned Terminals

2. Double-click the 🔲 icon to expand the Unassigned Terminals node.
3. Drag-and-drop unassigned Terminals onto a Controller. A new Zone containing a Location is created. Terminals display in the Location.
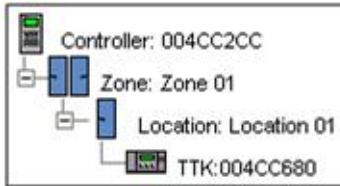
Figure 6 – Controller with Zone, Location and Terminal Displayed

Further information on the Site Configuration Procedure is covered in detail in the WebHelp under the **Part 3 - General Configuration**. See page 21 for details on starting the WebHelp.

4 Using the ImproNet Software
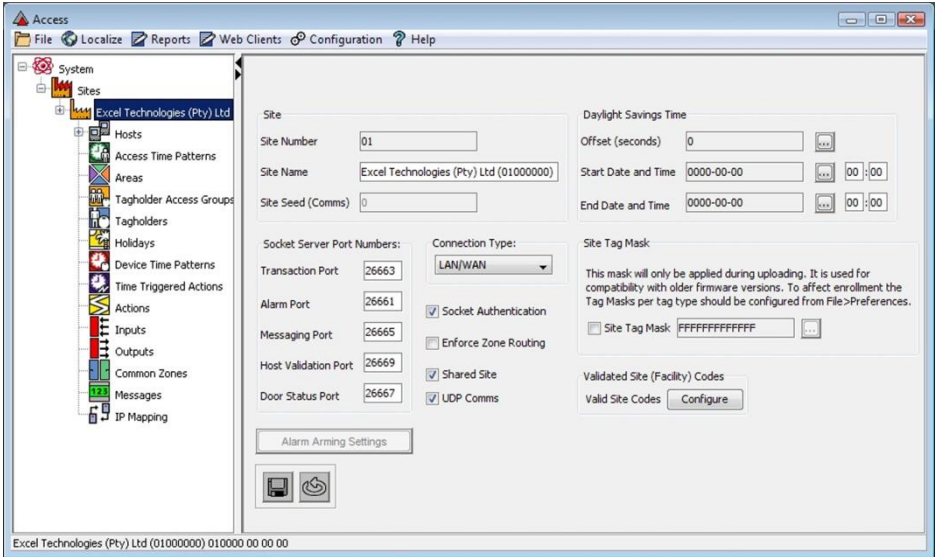
ImproNet Access User Interface

Figure 7 – ImproNet Access Work Area

Menu Bar
Consists of drop-down lists that allow navigation to different screens.

Navigator Pane
Provides an expanding *hierarchical tree* menu that lets you view and navigate to different items. The Navigation Tree consists of *nodes* that display components by connection.

Main Pane
Items selected in the Navigation Tree display their details in the Main Pane.

Icons

Located in the Navigation Tree, Icons display their details in the Main Pane. Icons are similar in function to buttons in that they may open another screen, window or dialog when clicked on.

Using Help

The ImproNet System has integrated WebHelp. Information not covered in this guide is covered in detail in the WebHelp. Activate the WebHelp as follows:

1. In Windows®, go to **Start**>**Programs**>**ImproNet**>**Access**.
2. From the Menu Bar select **Help**>**Online Help**.

Full Site Configuration Procedure

Perform the Site configuration procedure in the following order:

1. Sites
    - Host PC
    - Hardware auto-detection
2. Controller
    - Identify
    - Name
    - Configure
    - Assign Terminals to Zones and Locations
    - Configure Zones and Locations
3. Terminals
    - Identify
    - Name
    - Configure
    - Readers
    - Inputs

For detailed information on Site setup, refer to the WebHelp (**Part 3 – General Configuration**). See page 21 for details on starting the WebHelp.

Advanced Options

Guidelines for Setup of IP Terminals (ImproX iTT or iTRT)

> ⚠️ *Support for IP Terminals (ImproX iTT and iTRT) is only available on Controllers with firmware V7.34 and above.*

> ⚠️ *DO NOT connect RS485 Terminals to IP Terminals on the RS485 connector. This is an unsupported configuration.*

Use the Discovery Utility for discovering, configuring and grouping IP Terminals with their parent Controller. Controllers must know which Terminal they should communicate with. In an RS485 environment a Logical Address assigned during Auto-ID (after import of the Controller into Engine) achieved this. ImproNet, however, calls for extra steps in an Ethernet configuration. In an Ethernet configuration, group IP Terminals with a parent Controller before configuration and export to Engine. Then Auto-ID the hardware, assign locations in Access and finally, perform a Full Upload. Only then can you access the hardware with the Firmware Upgrade Utility.

> 📄 *Where you have more than one Site, repeat the procedure for each Site.*

Steps to Discover, Group, Configure and Export Controller and IP Terminal Settings to Discovery.txt

1. Display Controllers and IP Terminals by performing a network search. On display of the Controllers and Terminals, the following icons appear: the 🟧 icon represents unlinked Controllers. The 🟦 icon represents Terminals.

2. Configure the IP Address for each Controller and IP Terminal. Refer to page 11 for more information.

3. Group one or more IP Terminal with a single Controller. Refer to page 10 for more information.

4. Configure the application settings (that is the Port Number and Memory Size) for each Controller and IP Terminal. Defaults should meet most installations needs.

> ⚠️ *DO NOT set Safe IP at this stage.*

5. Set the default password for each Controller and IP Terminal, ensuring that you keep the same password for all units. The Controller's default password is **impro** and the Terminal's default password is **masterkey**. Change this password, to a string of not more than 16 characters.

6. Assign a unique Logical Address to each Controller (for export in Hexadecimal). Terminals do not require a Logical Address in the Discovery Utility.

7. Select the Controllers for export. The 🎲▶ icon represents Controllers with linked Terminals. On expanding the Controller tree, the 🎲▼ icon displays, with the linked Terminals displaying below. Only select the Controller(s) as the grouped Terminal(s) automatically export with their grouped Controller. Unlinked Terminals are ignored.

8. Export the selected units to a text file (discovery.txt). Refer to page 15 for information on this process.

Steps Required in ImproNet Engine

1. In ImproNet Engine, import the Discovery.txt file created earlier. Refer to page 16 for more information on this process.

2. Perform an Auto-ID. Refer to page 17 for more information.

3. Activate UDP Comms (in Engine Properties) if not already activated. Again, refer to page 16 for information on this process.

Steps Required in Access

Go to Access and drag and drop the unassigned units to their chosen locations. Refer to page 18 for more information.

Steps Required in ImproNet Engine

In ImproNet Engine, perform a Full Upload to all units. Refer to Part 3 – General Configuration for more information.

Steps Required in the Firmware Upgrade Utility

> ⚠️ *Perform an Engine Full Upload BEFORE trying to Ping your IP Terminals.*

1. Start the Firmware Upgrade Utility and set the Protocol to **UDP Multi Controller**.
2. Check that all hardware's connected and working as defined by using the **Ping** tool.
3. Carry out a **Firmware Upgrade** if needed.

Refer to Part 8 - Utilities for detailed instructions on using the Firmware Upgrade Utility.

Additional Options

- Carry out **Safe IP** by going back to the Discovery Utility. Search for the units and then **carry out Safe IP on each unit individually**. Refer to Part 8 – Utilities for more information.
- Move an IP Terminal from one Controller to another, in Access delete the IP Terminal first. Then in ImproNet Engine, perform a Full Upload. This releases the IP Terminal from its parent Controller and prevents network diagnostic problems. Refer to Part 3 – General Configuration for more information.

Extra Information

Further information is available at the following resources:

- **ImproX EC^{II} Hardware Installation Manual** (XEC300-0-0-GB-XX).
- **ImproX EC^{II} Product Specification Catalogue** (XEC350-0-0-GB-XX).
- **ImproNet Custom Reports Quick Start Guide** (IXP365-0-0-GB-XX).
- **ImproNet Software Installation Guide** (IXP362-0-0-GB-XX).
- **ImproNet WebHelp** (IXP393-0-0-GB-XX).

> *The referenced documents are available for download at www.impro.net. Alternatively, contact your Impro dealer for a copy.*

User Notes

User Notes

This manual is applicable to the ImproNet Software Suite V7.66 (upwards). (The last two digits of the Impro stock code indicate the issue status of the product).			
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