

# *VA Step-by-step Tutorial*

## *Using the Conditional Outputs to Send strings over Ethernet*



# Overview



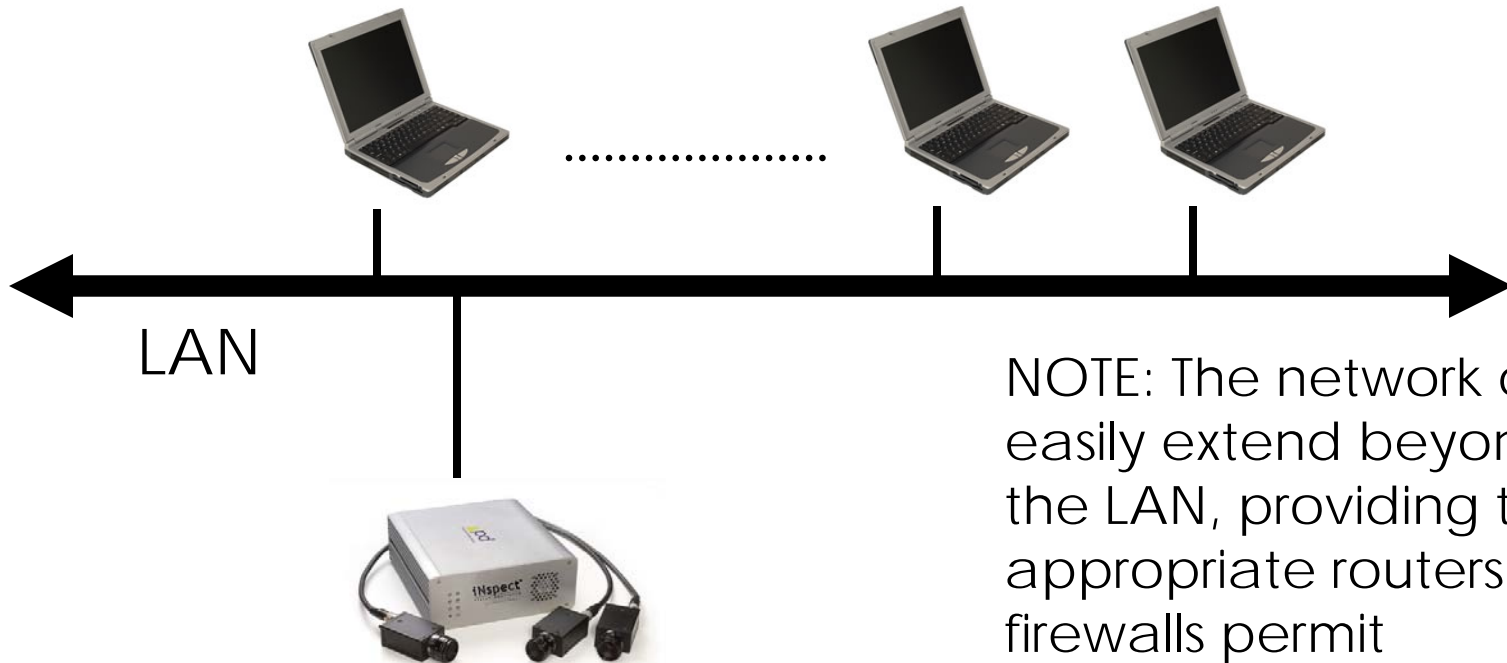
The Vision Appliance provides several mediums and methods to exchange data with external devices.

In this tutorial, we will demonstrate how to communicate some simple results from the locator tool, via Ethernet, to a PC connected to the same LAN.

# Basic Configuration



## User (Client) Access Points



NOTE: The network can easily extend beyond the LAN, providing the appropriate routers and firewalls permit

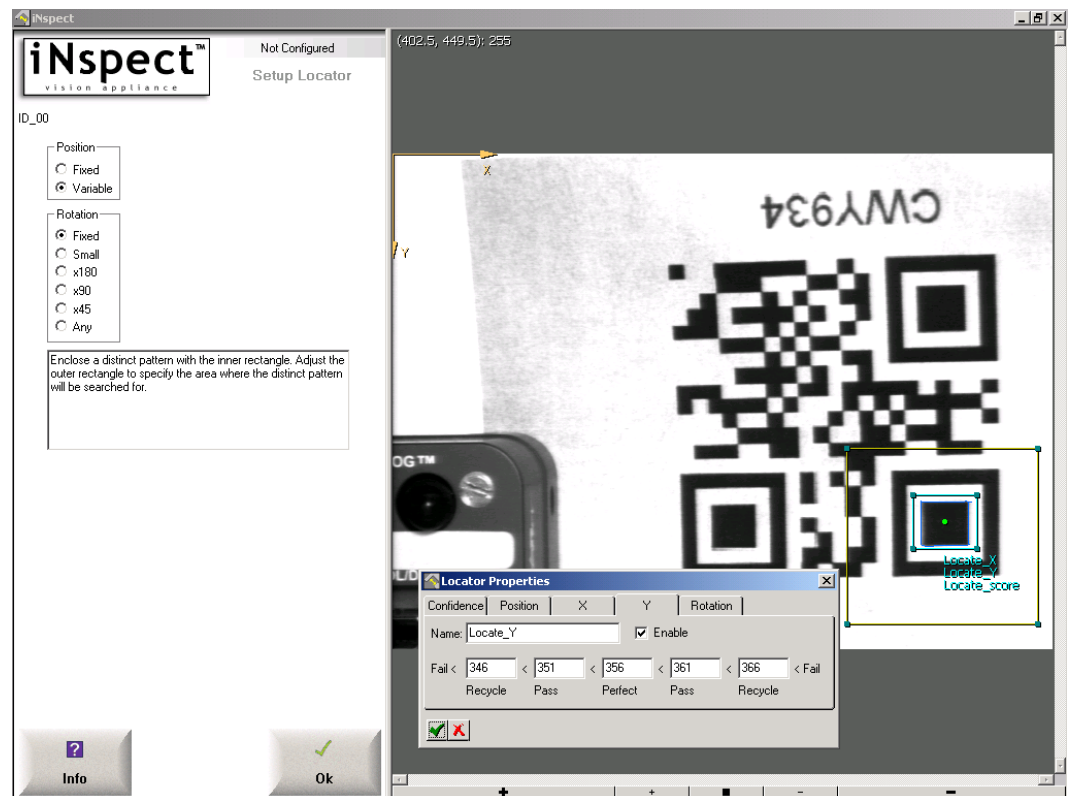
VA40 Vision System (Server)

# iNspect Setup



This simple application locates a pattern in the image and outputs the score (quality of the match), along with the X and Y coordinates of the find.

The image shows the iNspect locator page where the inspection setup is defined.

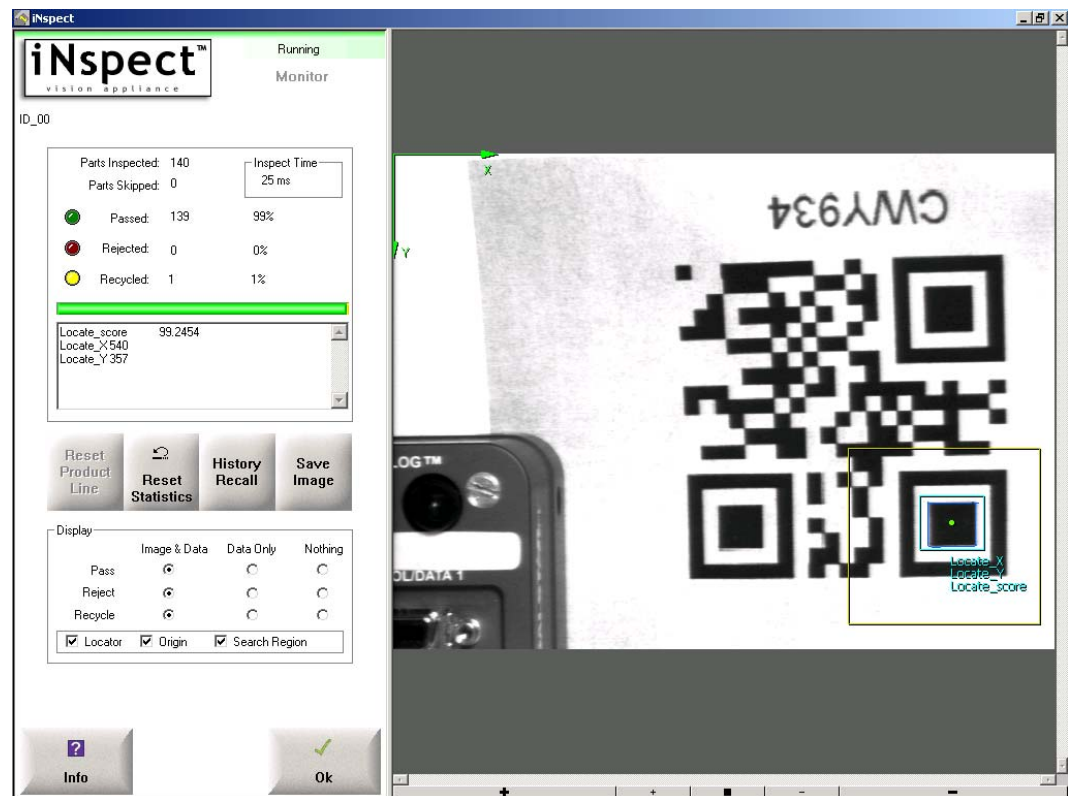


# Verify Setup

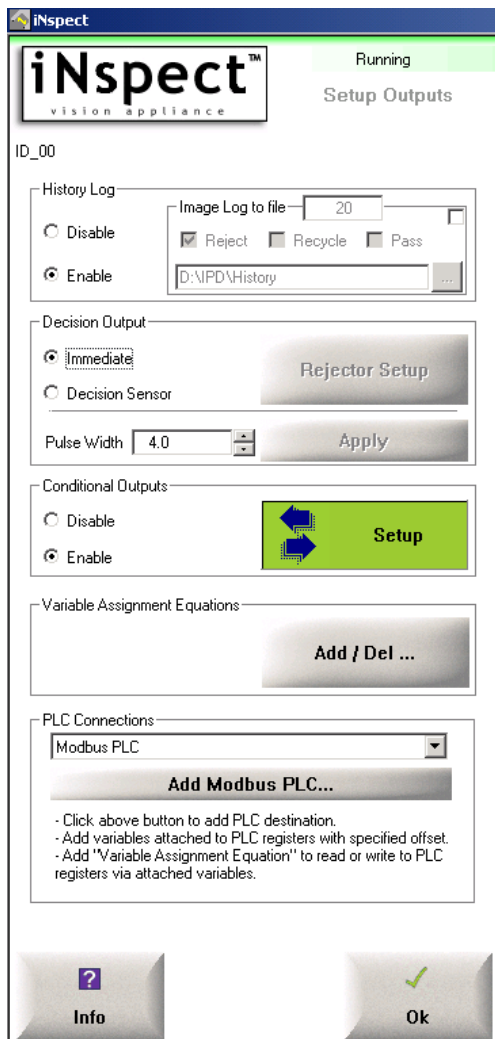


With the pattern and tolerances defined, we exit the locator setup and test run the application.

Next we go back into the setup panels to configure the Conditional Outputs to report results.



# Conditional Output Setup



The Conditional Outputs panel allows us to setup reporting conditions, as well as the medium through which information is exchanged. This includes serial and Ethernet communication. Direct connect to various PLCs is also available through this interface.

# Conditional Output Setup



iNspect vision appliance

Ready to Run

Conditional Outputs

ID\_00

If Condition:  **Create / Edit ...**

Then Send:  **Add / Edit ...**

To Destination:  **Add / Edit ...**

**Add** **Delete**

Condition	String to Send	Destination
1	Uncond App Output	Com port on COM1 Baud:38400
1	Uncond App Output	Server on port 5020
1	Uncond App Output	General Purpose Input
1	Uncond App Output	General Purpose Output

**Info** **Ok**

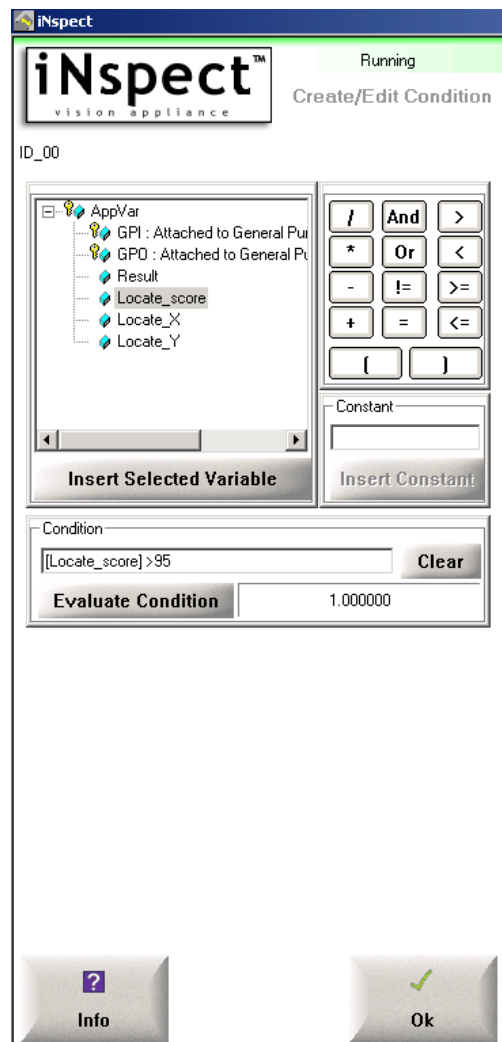
Conditional Setup:  
1 = Every inspection

String to send when  
condition=TRUE

Where to send it

Defined Conditions

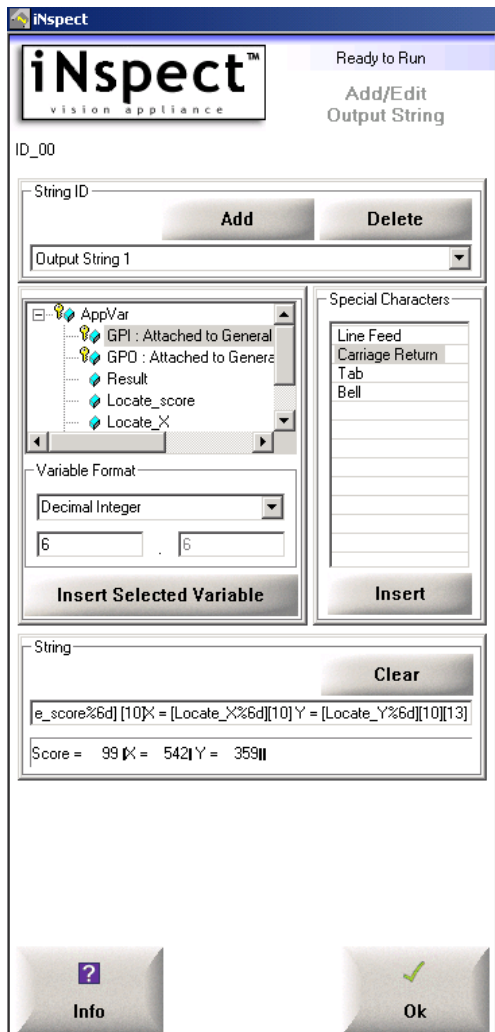
# Conditional Output Setup



Create/Edit Condition:

We select a valid condition from the defined variables. "Result" means output after every inspection. In this case, we decided to output the locator values only if the quality score exceeded 95. Use the "Evaluate Condition" button to test the condition.

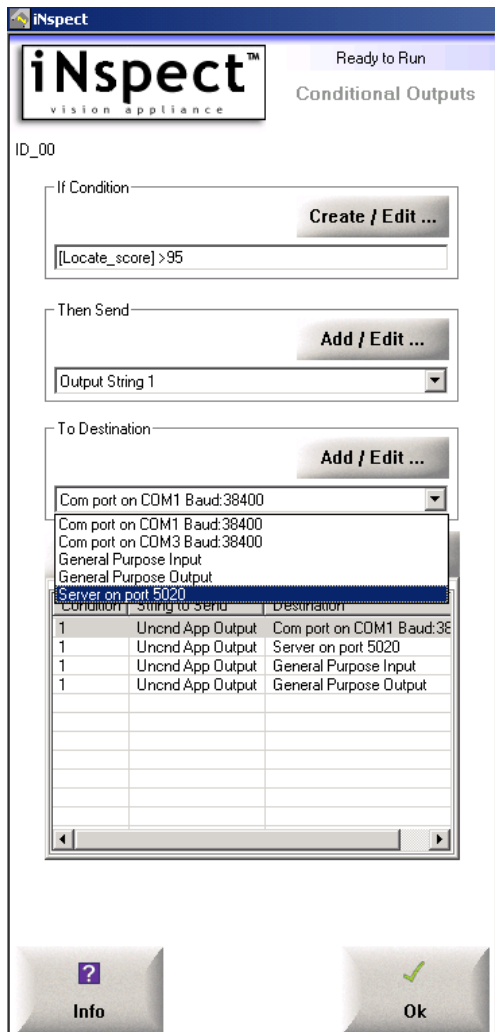
# Conditional Output Setup



Add/Edit output String:

We now define what we want to report and the format of how we report it. This is done by selecting variables or characters and using the "Insert buttons", or editing the string below.

# Conditional Output Setup



The screenshot shows the 'iNspect Conditional Outputs' dialog box. The title bar reads 'iNspect Ready to Run'. The main area is titled 'Conditional Outputs' and shows the ID 'ID\_00'. It has three sections: 'If Condition' with a 'Create / Edit ...' button and the text '[[Locate\_score] > 95'; 'Then Send' with an 'Add / Edit ...' button and a dropdown menu showing 'Output String 1'; and 'To Destination' with an 'Add / Edit ...' button and a dropdown menu showing 'Com port on COM1 Baud:38400'. A table below the dropdown lists several destinations, with 'Server on port 5020' selected. At the bottom are 'Info' and 'Ok' buttons.

Condition	String to Send	Destination
1	Uncnd App Output	Com port on COM1 Baud:38400
1	Uncnd App Output	Server on port 5020
1	Uncnd App Output	General Purpose Input
1	Uncnd App Output	General Purpose Output

The final step, in the case of Ethernet, is to define the port to where the conditional data is sent. We typically set the VA to be a server in this mode and output on port 5020. Simply select this from the pull-down menu.

Note the IP address of the vision system for future reference.

# Conditional Output Setup



The screenshot shows the 'iNspect Conditional Outputs' configuration window. The window title is 'iNspect' and the status is 'Ready to Run'. The main title is 'Conditional Outputs'. The ID is 'ID\_00'. The configuration is as follows:

- If Condition:** `[[Locate_score] > 95]`
- Then Send:** Output String 1
- To Destination:** Server on port 5020

Buttons: **Add** (green), **Delete** (grey)

Condition	String to Send	Destination
1	Uncnd App Output	Com port on COM1
1	Uncnd App Output	Server on port 502
1	Uncnd App Output	General Purpose Ir
1	Uncnd App Output	General Purpose C
<code>[[Locate_score] &gt; 95]</code>	Output String 1	Server on port 502

Buttons: **Info** (with question mark), **Ok** (with checkmark)

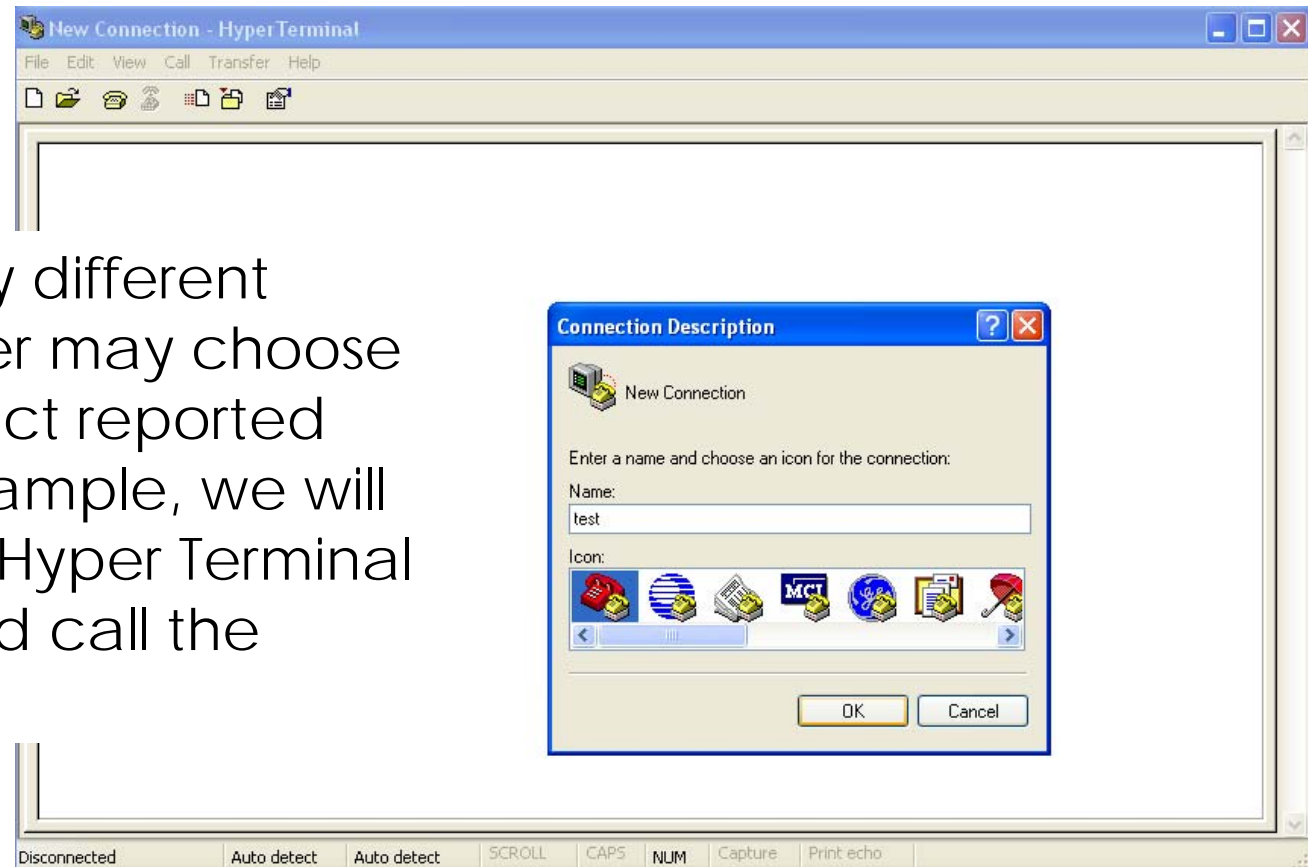
Click the “Add” button to complete the setup. The definition now appears in the table below. NOTE: The definitions in this table are processed sequentially, so if you have other definitions for port 5020, they will be output in the order they appear. You can select and delete unwanted definitions using the “Delete” button.

Return to the main screen and click “Monitor” to start reporting.

# Client PC Setup



There are many different ways that a user may choose to view or collect reported data. In our example, we will setup a simple Hyper Terminal connection and call the server.



# Client PC Setup



Select the IP address of the vision system and the port that the server is using.

