



MCN Health Monitor

The finger on the pulse of your
critical systems

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MCN Health Monitor

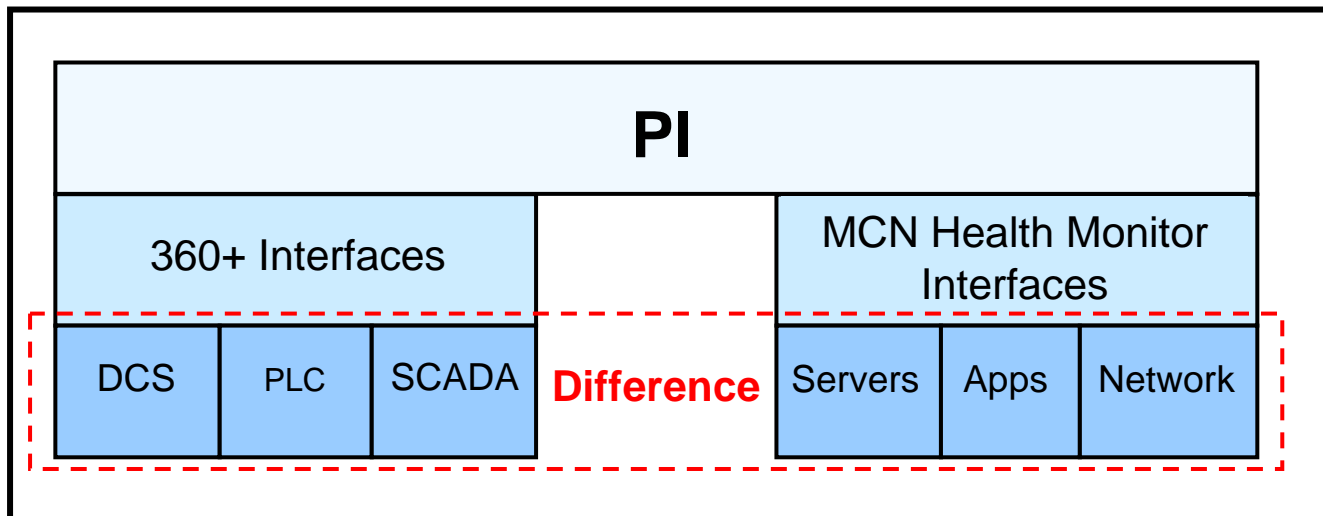
- Today's presentation
 - Introduction
 - Description
 - Interfaces
 - Tag Builders
 - Client tools
 - Benefits

MCN Health Monitor - Description

- What is it?
 - **Manufacturing Control Network Health Monitor**
- Interfaces
 - Ping, TCP Response, Perfmon & SNMP
- Client Tools
 - IT Organizer, Tag Builders & IT Overview (ProcessBook Display Builder)

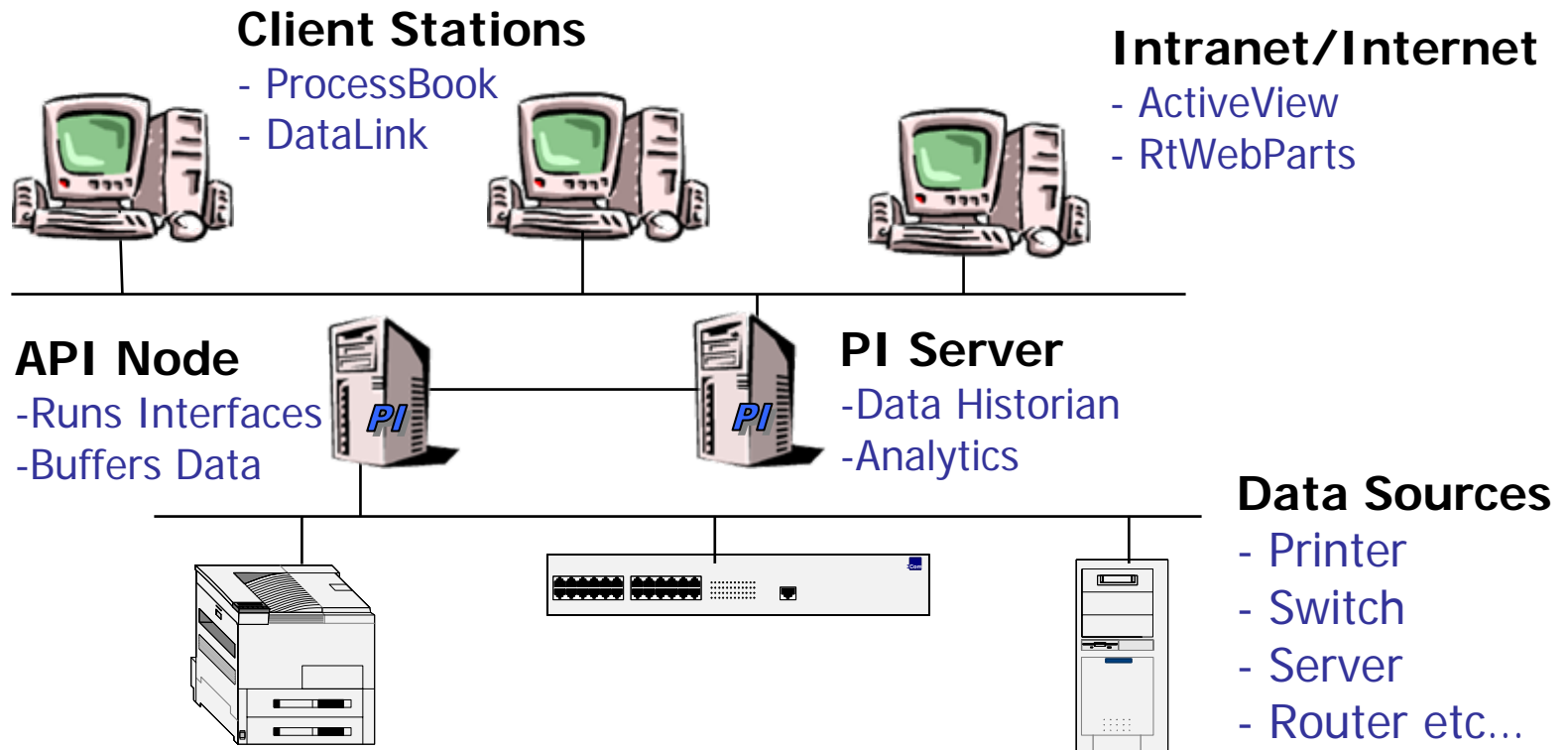
MCN Health Monitor and PI

- MCN Health Monitor includes a set of four interfaces designed specifically to monitor your IT & T infrastructure
- This includes your PI system!



MCN Health Monitor and PI

- Where does it fit in with your PI system?



MCN Health Monitor - Benefits

- Leverage existing infrastructure
- Pinpoint problems
 - Analyse historical data to find problems
 - Predict impending issues using baselines and history
 - Uncover network bottlenecks
- Less downtime = money savings
- Monitor your critical systems
 - Switches, routers, servers, applications, network

MCN Health Monitor - Pre Requisite Knowledge

- If you already use a PI system then you will be familiar with it's use!
- MCN Health monitor leverages existing PI infrastructure
- Client tools are intuitive and make light work of setting up monitoring
- RtWebParts can be utilized for viewing displays created with the Display builder

MCN Health Monitor - Uses

- Monitor your PI system
 - PI server software
 - PI server hardware
 - Network connections
 - Switching devices
- Monitor critical IT systems
 - Servers
 - Switches
 - Routers
 - Applications
- Monitor other devices like network printers and many more!

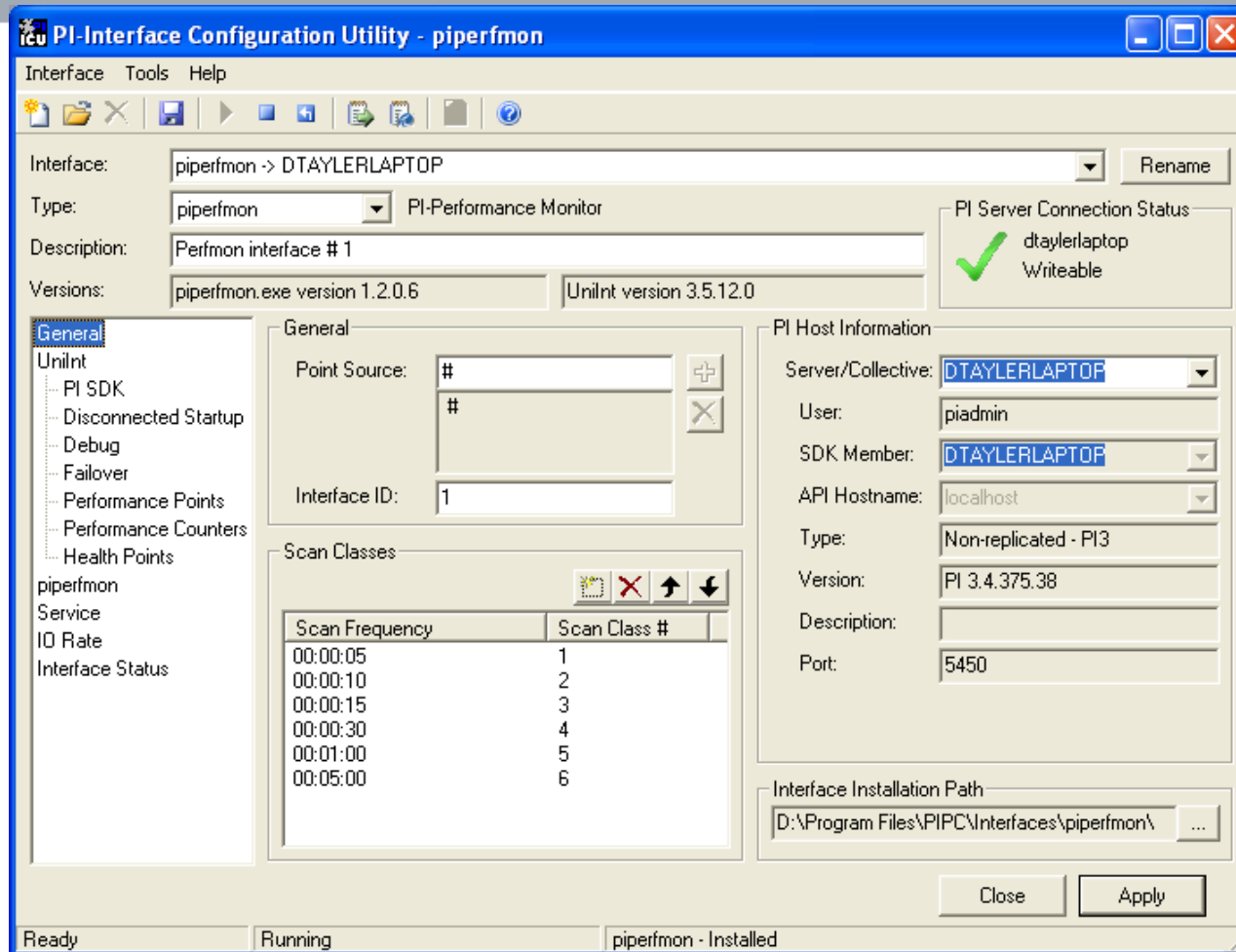
MCN Health Monitor - Interfaces

- TCP Response, Perfmon, Ping, SNMP
 - These interfaces are enough to provide the necessary basic monitoring of any IT & T network
- Basic versions of ping, perfmon and SNMP are already installed on a PI server but are limited!
- Full versions can be deployed on a dedicated interface node and have no limitations
- Licensed to run on as many interface nodes as required to meet performance goals

MCN Health Monitor - Interfaces

- Interface Configuration
 - Interfaces can be configured to either run interactively or as a windows service
 - Interfaces can be configured and maintained in two ways:
 - Graphically using the PI-ICU:
 - Import configuration file, configure parameters, configure service
 - Manually
 - Using a command window to install the interface as a service
 - Editing the *.bat file to change the interface configuration parameters

MCN Health Monitor - Interfaces

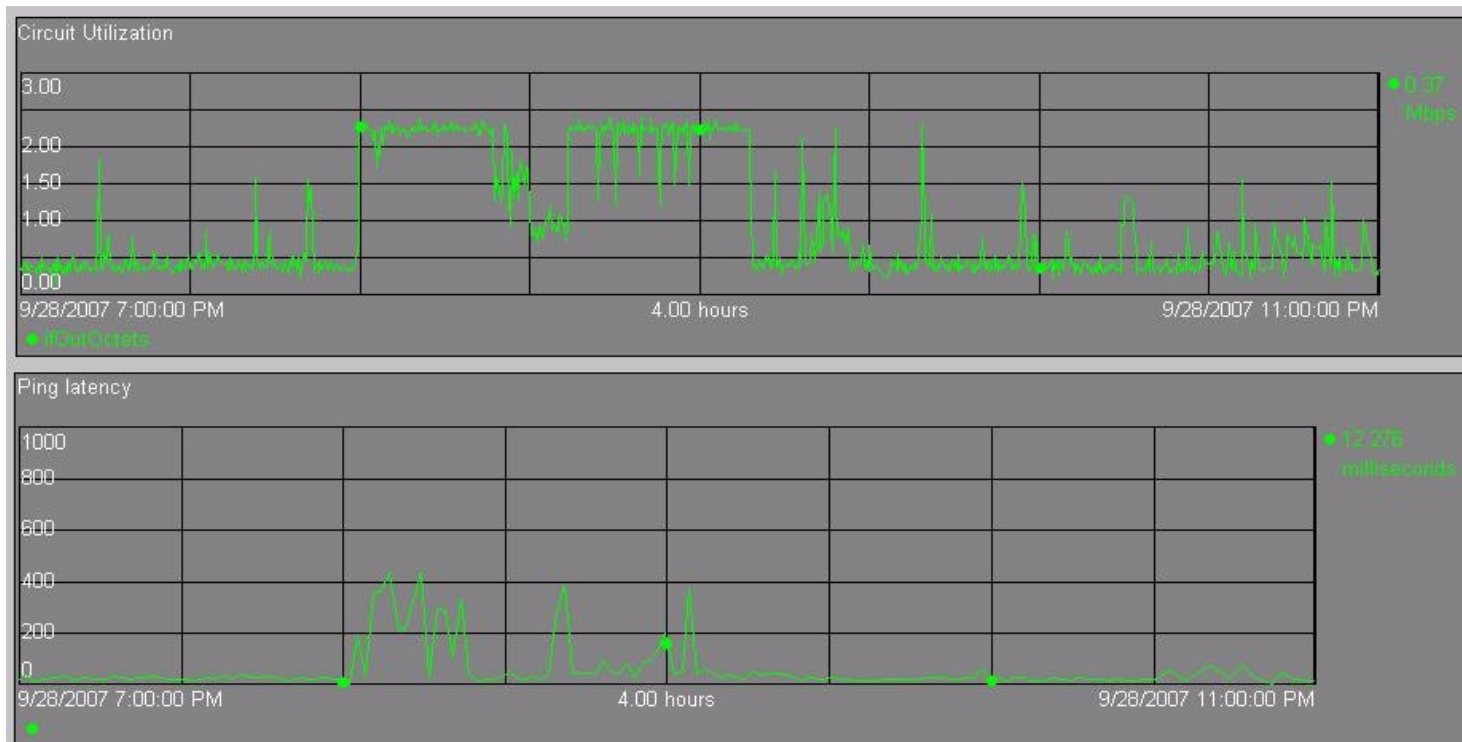


MCN Health Monitor – PING Interface

- Measures the latency of network connections
- Use this interface to record a history of ping response times for a device
 - Use this information to see network response times and troubleshoot slow / broken connections
 - Check whether a certain machine is responsive

MCN Health Monitor – PING Interface

- Example of network congestion visible using ping response times



MCN Health Monitor – PING Interface

- OSIssoft recommends you to configure a PI Ping tag for each:
 - Data Acquisition Node
 - Major network equipment (Switches, routers,...)
 - Internal application server (mail server, ERP server, RDBMS,...)
 - External (Mail destination addresses, Internet sites, Remote offices,...)

MCN Health Monitor – TCP Response Interface

- Use this to measure and archive the response times of certain services and applications on a TCP/IP network
 - Services: FTP, Web, Mail etc...
 - Ports: 161 for SNMP, 23 for Telnet
- Similar to ping but it connects to a particular TCP port on the target machine
 - Sends a connection request to a particular port
 - Waits for an appropriate response from the service

MCN Health Monitor – TCP Response Interface

- PI TCPResponse allows you to determine the response times of
 - HTTP (Web) servers;
 - SMTP, POP3, and IMAP (mail) servers;
 - FTP servers;
 - DNS servers;
 - Microsoft Windows Terminal Servers;
 - OSIsoft's PI Servers;
 - Any TCP application that exclusively uses a specific port number.

MCN Health Monitor - SNMP Interface

- **Simple Network Management Protocol**
- Retrieves performance information from any SNMP enabled device by querying it's SNMP agent
 - The interface acts as the SNMP client which requests information from the SNMP agent on the monitored device
 - The interface obtains information from device by accessing the Object Identifier (OID)
 - Communicates with SNMP agent using MIB (Management Information Base) which is a description of the objects
- Use this to monitor just about any network hardware as well as many applications
 - Routers, switches, printers, operating systems, relational databases etc...

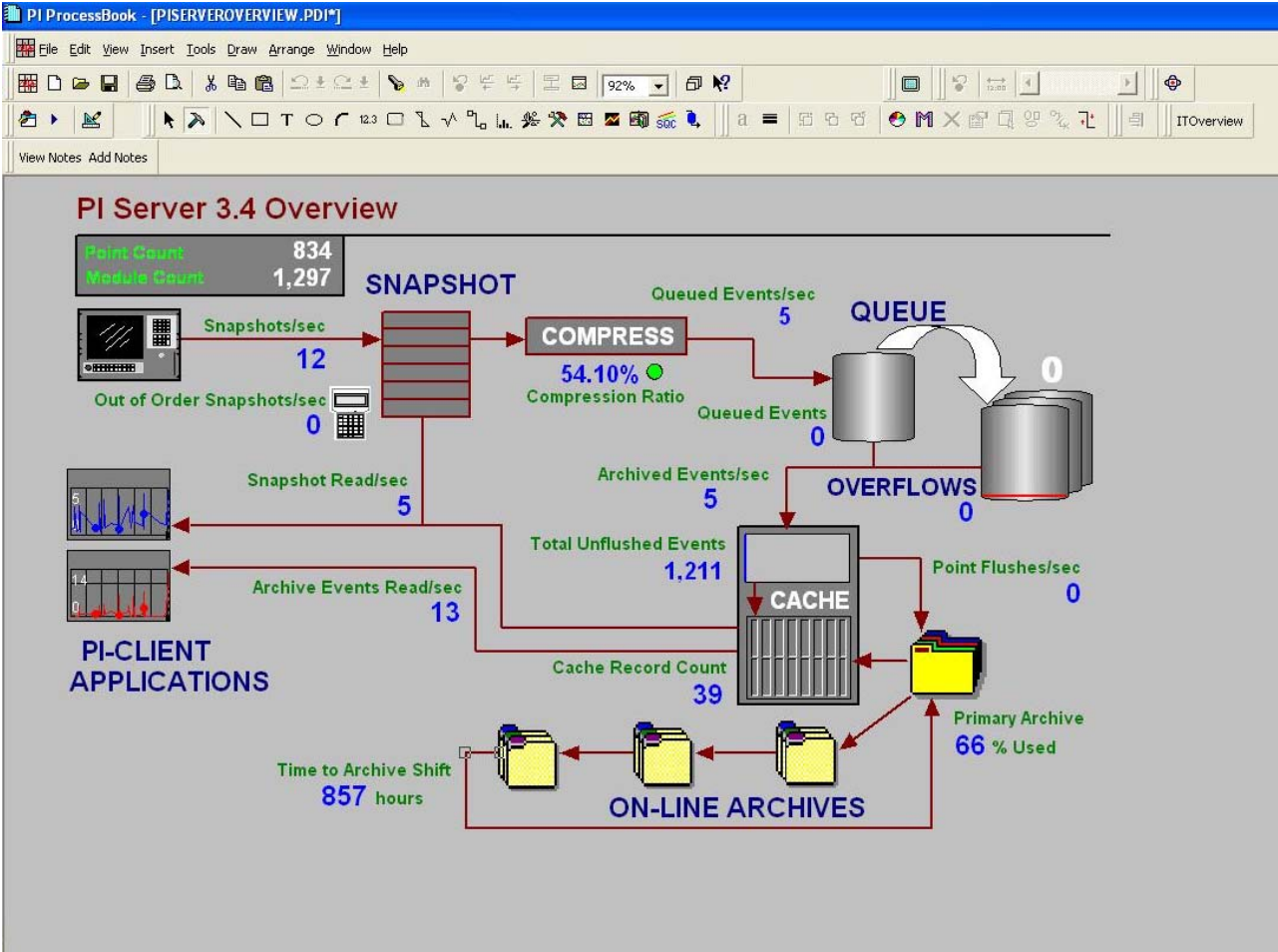
MCN Health Monitor – Perfmon Interface

- Windows performance counters
 - Computer Statistics: CPU, HD free space, memory, network, etc.
 - PI Statistics: archiving rate, snapshot rate, compression ratio, number of connections to a server, etc.
 - Application Statistics: SQL, PI...
- Can read performance counters from a local or a remote machine

MCN Health Monitor – Perfmon PI counters

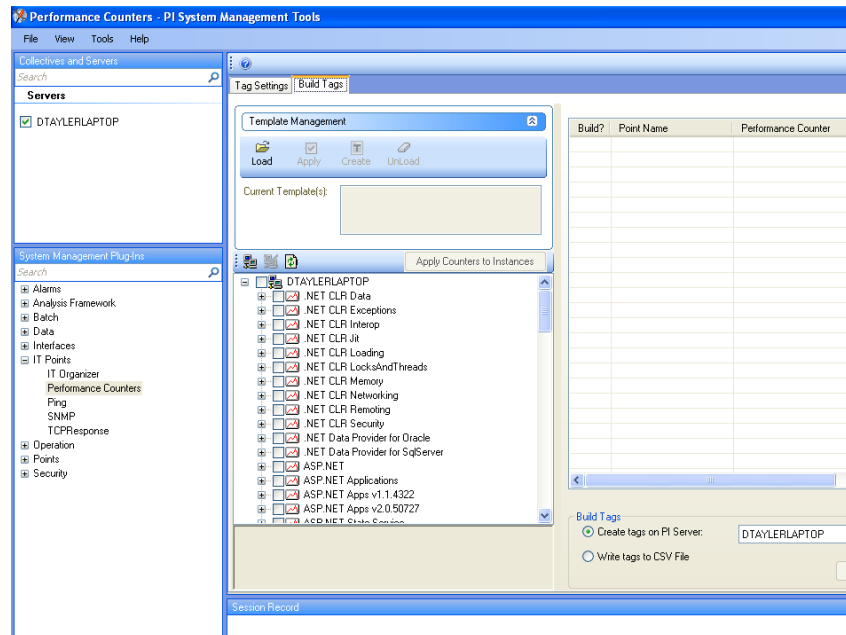
- PI Base Subsystem
 - Module Count
 - Point Count
 - Point Accesses/sec
- PI Archive Subsystem
 - Archived Events/sec
 - Out of Order Events/sec
 - Time to Archive Shift
- PI Snapshot Subsystem
 - Snapshots/sec
 - OutOfOrderSnapshots/sec
- PI Network Manager
 - Connections
 - Bytes [Sent|Received]/sec
- PI Update-Manager
 - Pending Events
 - New Events/sec
 - Lost Events/sec
- PI Message Subsystem
 - Sent Messages/sec
 - Retrieved Messages/sec
 - Inserted Messages/sec
- PI Performance Equation Scheduler
 - NumberOfPEs
 - TotalEvaluations/sec

MCN Health Monitor – Perfmon PI Server Overview



Tag Builders

- Tag builders are available for each interface to make configuration easier
- The tag builders are SMT3 plug-ins



MCN Health Monitor – Client Tools

- IT Organizer
- This is an SMT3 Plug-in used to organize your IT infrastructure
 - Scans the interfaces for associated points
 - Organizes groups of points into devices
 - Allows you to assign roles to a device
- Create a Module Database structure for a hierarchical model of your IT system and then use this when building displays

MCN Health Monitor – IT Organizer

The screenshot displays the IT Organizer software interface. The main window is titled "IT Organizer - PI System Management Tools" and features a menu bar with "File", "View", "Tools", and "Help".

On the left side, there are two panels:

- Collectives and Servers:** Contains a search bar and a list of servers. "DTAYLERLAPTOP" is checked and highlighted.
- System Management Plug-Ins:** Contains a search bar and a list of plug-ins including Alarms, Analysis Framework, Batch, Data, Interfaces, IT Points, IT Organizer, Performance Counters, Ping, SNMP, TCPRResponse, Operation, Points, and Security.

The central pane shows a "Site Map" tree structure with "DTAYLERLAPTOP" selected under a "Server" node. Below the tree, the IP address "192.168.50.254" is displayed.

The right pane is titled "Monitored Device List (2 Devices)" and shows the configuration node "DTAYLERLAPTOP". It includes a toolbar with "Delete", "Clear", "Refresh", and "Assign" buttons. Below the toolbar is a table with the following data:

Device Name	Last Update Date	Percent Reporting	Total Points	Comment
192.168.50.254	4/10/2007 5:37:50 PM	100%	36	
DTAYLERLAPTOP (1)	4/10/2007 5:37:49 PM	59%	88	

Below the table, there are tabs for "Points" and "Roles". The "Roles" tab is active, showing "Details for DTAYLERLAPTOP" with a table:

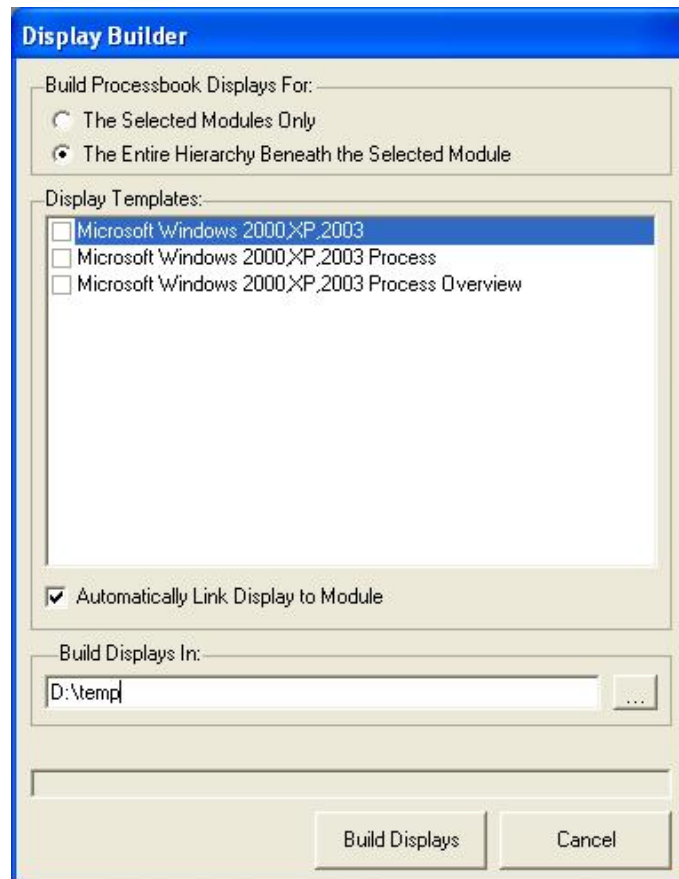
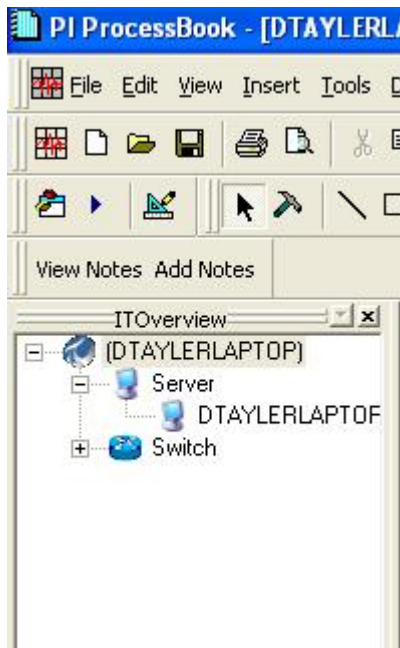
Device Name	Role Name
DTAYLERLAPTOP	Microsoft Windows 2000,XP,2003

MCN Health Monitor – Client tools

- ProcessBook display builder
 - This is a ProcessBook add in that allows you to automatically build displays for devices you have organized using the IT Organizer SMT3 plug-in
 - Easily and efficiently build many displays at the click of a button!
 - Utilizes the Module Database

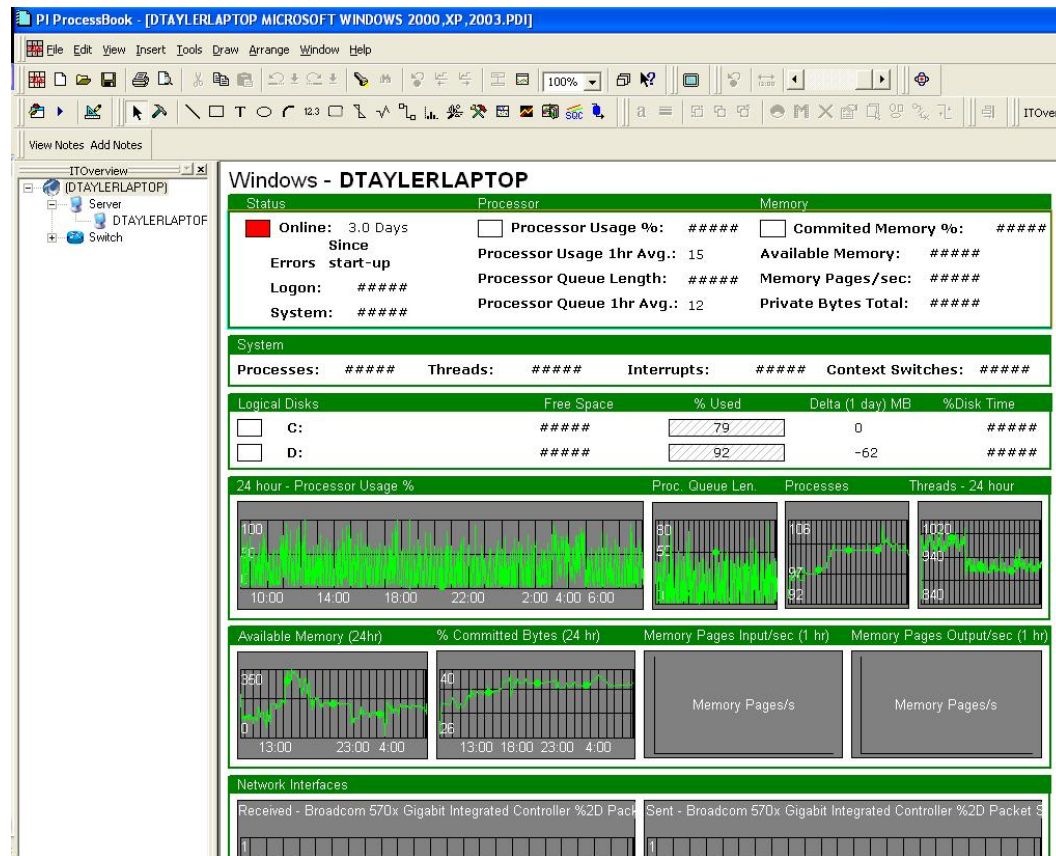
MCN Health Monitor – Client tools

- ProcessBook Display Builder Add-in



MCN Health Monitor – Client tools

- ProcessBook Display builder screen



MCN Health Monitor – Steps to configure monitoring

- Example: Configuring monitoring for a new windows server machine
 - Interface configuration
 - Tag building
 - IT Organizer – Assign role to device
 - ProcessBook Display Builder
 - Upload SVG to SharePoint if required

MCN Health Monitor - Benefits

- Easy to use if you're already familiar with PI
- A great way to leverage existing infrastructure & investment
- Further extend the benefits of your current PI system
- Manage IT resources effectively
- Historical and real time problem analysis
- Less downtime

MCN Health Monitor

- More information...
 - <http://techsupport.osisoft.com>
 - <http://training.osisoft.com>

The screenshot shows a web browser window titled "MCN Health Monitor - Windows Internet Explorer". The address bar displays the URL: <http://techsupport.osisoft.com/Products/Layered+Products/MCN+Health+Monitor/MCN+Health+Monitor.htm>. The page features the OSiSoft logo and navigation tabs for GLOBAL, OSiDN, TRAINING, and SUPPORT. A search bar is located in the top right. The main content area is titled "MCN Health Monitor" and includes a welcome message "Welcome David | Sign Out". The page is divided into several sections:

- LAYERED PRODUCTS:** A list of products including MCN Health Monitor, PI ACE, PI Analysis Framework, PI API, PI DataLink for Excel Services, PI ICE, PI IT Monitor, PI ODBC Client, PI OLEDB Provider, PI SDK, PINet / PI on PINet, ProcessPoint, RPM Business Package for SAP EP 6.0, RTWebParts, and Sigmafine.
- MCN Health Monitor Home:** A description stating that the MCN Health Monitor detects anomalies within the process manufacturing IT infrastructure, enabling better notification and warnings of performance threats. It also provides a link to a webinar for additional information.
- Release Announcements:** A list of recent releases with dates and descriptions:
 - 21-Sep-2007: PI Performance Monitor Interface v1.4.1.0 (PR1) is released
 - 07-Jul-2007: PI Performance Monitor Interface w/ICU Control v1.4.0.0 (PR1) is released
 - 10-May-2007: PI SNMP Interface v1.4.0.0 (PR1) is released
 - 07-May-2007: PI TCPResponse Interface v1.1.5.0 (PR1) is released
 - 07-May-2007: PI SNMPTrap Interface w/ICU Control v1.1.2.0 (PR1) is released
- Support Bulletins:** A list of support bulletins with dates and descriptions:
 - 04-Jan-2007: MCN Health Monitor's IT Organizer v1.2.0.0 is not compatible with PI SMT v3.2.0.0 (PR1)
 - 16-Nov-2006: Installation problem in MCN Health Monitor PI Performance Counters Plug-In to SMT 3 v3.2.1.0
 - 26-Apr-2006: After upgrading PI ProcessBook, the IT Overview and all other Add-ins do not appear on list of available add-ins
 - 17-Apr-2006: IT Overview v1.0.0.0-1.1.0.0 does not install into ProcessBook 3.0.15.2
- Version and Release Date:** A table showing the current version and release date:

Version	1.2.0.0
Release Date	17-Oct-2006
- INFORMATION:** A list of links including Home, Overview, System Requirements, and Components.
- DOCS AND DOWNLOADS:** A list of links including Demo Kits, Extras, FAQs, Field Support, Install Kits, Newsletters, Release Notes, Training Materials, and User Manuals.

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Thank You!