

# ZyLAB Services Monitor Manager Manual



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# ZyLAB Services Monitor Manager

The ZyLAB Services Monitor Manager monitors all current ZyLAB services and restarts them if the services are stopped unintended. Services can be started on different machines.

## Installation and Configuration

The ZyLAB Services Monitor Manager consists of three layers:

1. **Services Monitor Manager** (page [2](#))  
Layer that controls from one place on the network the performance on several computers.
2. **Services Monitor** (page [7](#))  
Layer on which the services run.
3. **Services** (page [13](#))
  - ♦ ZySCANService
  - ♦ ZyTIMERService

# Installation of ZyLAB Services Monitor Manager

## Installation of ZyLAB Services Monitor Manager

The ZyLAB Services Monitor Manager is included with the standard installation of ZyINDEX, provided that IIS is available. Files are placed in the directory Program Files\ZyLAB\Information Management Platform\ServiceMonitor.Manager. Also, a virtual directory with the name ZSM is created. This virtual directory refers to Program Files\ZyLAB\Information Management Platform\ServiceMonitor.Manager and needs to be set for ASP.NET version 2.0. Check this by viewing the properties of the virtual directory. In the ASP.NET tab, the property 'ASP.NET version' must include a value starting with 2.

In the web.config file the protocol and port used by the ZyLAB Services Monitor Manager for communication with the ServiceMonitor.NTService are defined. These values can be adjusted, but must be equal to the values defined for the ServiceMonitor.NTService (see **ZyLAB.ServiceMonitor.NTService.exe.config** (page [10](#))).

More information on the web.config file can be found in the file itself (see **Example web.config file** (page [3](#))).

## Logging

The log file of the ZyLAB Services Monitor Manager is saved in the C:\Documents and Settings\All Users\Application Data\ZyLAB folder. The name of the log file is ZyLAB.ServiceMonitor.Manager.log.

## Example web.config file

```
<?xml version="1.0"?>
```

```
<!--
```

Note: As an alternative to hand editing this file you can use the web admin tool to configure settings for your application. Use the Website->Asp.Net Configuration option in Visual Studio.

A full list of settings and comments can be found in machine.config.comments usually located in

```
\Windows\Microsoft.Net\Framework\v2.x\Config
```

```
-->
```

```
<configuration xmlns="http://schemas.microsoft.com/.NetConfiguration/v2.0">
```

```
  <configSections>
```

```
    <section name="log4net" type="log4net.Config.Log4NetConfigurationSectionHandler, log4net"/>
```

```
  </configSections>
```

```
<!--
```

The <appSettings> section contains application settings and defines the protocol and port to use.

It's recommended to maintain the application settings by using the options page of the application. Remoting protocol and remoting port can only be maintained by editing this web.config file by hand.

Remoting protocol defines the type of channel to use.

Value can be "tcp" or "http".

Value needs to correspond with Zylab Services Monitor installations.

Remoting port defines the port number of the channel to use.

Value information can be found at <http://www.iana.org/assignments/port-numbers>.

Default value for tcp is "12346".

Default value for http is "12345".

Value needs to correspond with each Zylab Services Monitor installation.

-->

<appSettings>

```
<add key="ComputersToMonitor" value="ZYNLDEV MARCWS" />
<add key="EnableLogging" value="true" />
<add key="MessageBoxSize" value="3" />
<add key="PageSize" value="10" />
<add key="PingTimeout" value="1" />
<add key="RefreshRate" value="5" />
<add key="ServicesAvailable" value="ZySCANService;ZyTimerService" />
<add key="ServicesToMonitor" value="ZySCANService;ZyTimerService" />
<add key="RemotingProtocol" value="tcp" />
<add key="RemotingPort" value="12346" />
```

</appSettings>

<connectionStrings/>

<system.web>

<!--

Set compilation debug="true" to insert debugging symbols into the compiled page. Because this affects performance, set this value to true only during development.

-->

<compilation debug="false">

<assemblies>

```
<add assembly="System.ServiceProcess, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=B03F5F7F11D50A3A"/></assemblies></compilation>
```

<!--

The <authentication> section enables configuration of the security authentication mode used by ASP.NET to identify an incoming user.

-->

```
<authentication mode="Windows"/>
```

```
<!--
```

The <customErrors> section enables configuration of what to do if/when an unhandled error occurs during the execution of a request. Specifically, it enables developers to configure html error pages to be displayed in place of a error stack trace.

```
<customErrors mode="RemoteOnly" defaultRedirect="GenericErrorPage.htm">
```

```
<error statusCode="403" redirect="NoAccess.htm" />
```

```
<error statusCode="404" redirect="FileNotFound.htm" />
```

```
</customErrors>
```

-->

```
<!--
```

The <identity> section controls the application identity of the Web application. This element can be declared at any level (machine, site, application, subdirectory, or page).

```
<identity impersonate="true|false"
```

```
  userName="domain\username|registry:HKLM\Software\AspNetProcess,Name"
```

```
  password="password|registry:HKLM\Software\AspNetProcess,Pwd"/>
```

-->

```
<identity impersonate="true"/>
```

```
</system.web>
```

```
<log4net>
```

```
<!--
```

Info can be found at <http://logging.apache.org/log4net/>

-->

```
<appender name="RollingLogFileAppender"
```

```
type="log4net.Appender.RollingFileAppender">
```



```
<param name="File" value="C:\\ZyLAB
Data\\Logs\\ZyLAB.ServiceMonitor.Manager.log"/>
<param name="AppendToFile" value="true"/>
<param name="MaxSizeRollBackups" value="10"/>
<param name="MaximumFileSize" value="1MB"/>
<param name="RollingStyle" value="Composite"/>
<param name="StaticLogFileName" value="true"/>
<layout type="log4net.Layout.PatternLayout">
    <param name="ConversionPattern" value="%d %-5p %-15.15c{1} -
%m%n"/>
</layout>
</appender>
<root>
    <level value="Info"/>
    <appender-ref ref="RollingLogFileAppender"/>
</root>
</log4net>
</configuration>
```

# Configuration Services Monitor

The Services Monitor (ZyLAB.ServiceMonitor.NTService) consists of two applications. The ZyLAB.ServiceMonitor.NTService.exe application, which is the central application that starts, stops and restarts the ZyLAB Services, and communicates status and configuration information to the Manager Web Service. And the ZyLAB.ServiceMonitor.Satellite.exe application, which is a failsafe device to control and ensure that ZyLAB.ServiceMonitor.NTService.exe keeps functioning optimal.

- ZyLAB.ServiceMonitor.NTService.exe
  - ♦ Communicates with the services
  - ♦ Communicates with email server
  - ♦ Communicates with log files
  - ♦ Communicates with Service Manager
  - ♦ Communicates with ZyLAB.ServiceMonitor.Satellite.exe file
  - ♦ Restarts ZyLAB.ServiceMonitor.Satellite.exe file
- ZyLAB.ServiceMonitor.Satellite.exe
  - ♦ Communicates with ZyLAB.ServiceMonitor.Satellite.exe file
  - ♦ Restarts ZyLAB.ServiceMonitor.Satellite.exe file
  - ♦ Writes log files

## ZyLAB.ServiceMonitor.Satellite.exe.config

### Define communication of Satellite with the NTService

Two ports need to be defined:

- Satellite port:

```
<system.runtime.remoting>
  <application>
    <service>
      <wellknown
        mode="SingleCall"

type="ZyLAB.ServiceMonitor.Satellite.Control.HealthIndicator,ZyLAB.ServiceMonitor.Satellite"
        objectUri="HealthIndicator.rem">
      /wellknown>
    </service>
    <channels>
      <channel ref="tcp" port="46101"/>
    </channels>
  </application>
</system.runtime.remoting>
```

In this example, port 46101 is the port on which the Satellite offers a HealthIndicator object. This object must be available for the ZyLAB.ServiceMonitor.NTService on the same machine.

- NTService port:

```
<serviceMonitor>
  <satellite>
    <remoteObjects>
      <add key="NTService.IHealthIndicator"
value="tcp://localhost:46101/MonitorHealthIndicator.rem"/>
```

In this example, port 46101 is the port on which the NTService offers services. **Note:** The NTService will, on this port, also offer services to the Services Manager (located elsewhere on the network). Port 46101 needs therefore to be opened by the administrator for network traffic.

## Define communication with log file

A logical default path for the log file needs to be defined:

```
<log4net>
  <appender name="RollingLogFileAppender" type="log4net.Appender.RollingFileAppender">
    <param name="File" value="C:\\logs\\test.log" />
```

## Define time outs

- The LifesignCheck.Interval value defines (in milliseconds) how often the ServiceMonitor.NTService is checked. The NTService.MaxShutdownTime value defines (in milliseconds) how long the interval should be between informing the Windows NT Services Controller that the ZyLAB.ServiceMonitor.NTService needs to be stopped, and actually stopping the service with a Kill() commando.

```
<timers>
  <add key="LifesignCheck.Interval" value="15000"/>
  <add key="NTService.MaxShutdownTime" value="15000"/>
</timers>
```

Certain user rights might apply for changing these settings.

## ZyLAB.ServiceMonitor.NTService.exe.config

### Define communication of NTService with Satellite

Two ports need to be defined:

- Satellite port:

```
<ntService>
  <remoteObjects>
    <add key="Satellite.IHealthIndicator" value="tcp://localhost:46101/HealthIndicator.rem"/>
    <add key="Satellite.Application" value="C:\Program Files\ZyLAB\Information Management
Platform\ServiceMonitor.NTService\ZyLAB.ServiceMonitor.Satellite.exe"/>
```

The full path of the Satellite application is needed, so it can be restarted.

- NTService port:

```
<system.runtime.remoting>
  <application>
    <service>
      <wellknown
        mode="SingleCall"
```

```
type="ZyLAB.ServiceMonitor.NTService.Interface.ProxyMonitorHealthIndicator,ZyLAB.ServiceMonitor.NTService"
```

```
  objectUri="MonitorHealthIndicator.rem" />
  <wellknown
    mode="SingleCall"
```

```
type="ZyLAB.ServiceMonitor.NTService.Interface.ProxyMonitor,ZyLAB.ServiceMonitor.NTService"
```

```
  objectUri="Monitor.rem" />
</service>
<channels>
  <channel ref="tcp" port="46101"/>
</channels>
```

```
</application>
</system.runtime.remoting>
```

Services are offered via tcp, or http.

**Note:** The NTService will, on this port, also offer services to the Services Manager (located elsewhere on the network). Port 46101 needs therefore to be opened by the administrator for network traffic.

### Define communication with services (ZySCANService, ZyTIMERService, etc.)

- Define name of MSMQ message queue:

```
<add key="MSMQ.QueueName" value="zylab_servicemonitor_lifesign_queue"/>
```

- Define link to services:

```
<services>
```

```
<add key="ZySCANService" value="c:\program files\zylab\information management
platform\bin\ZySCANService.exe"/>
```

```
<!--<add key="Name of installed Service" value="Drive:\Path\to\Executable.exe"/>-->
```

```
<!--<add key="ZyALERT" value="ZyALERTService"/>-->
```

```
</services>
```

The link exists of the service identifier (not necessarily equal to the service name), and the full path to the executable.

### Define communication with email server

- Host, port, and login information

```
<system.net>
```

```
<mailSettings>
```

```
<smtp>
```

```
<network
```

```
host="zynlms01.ZyLAB.WAN"
```

```
port="25"
```

```
userName="userName"
```

```
password="p@ssw0rd"/>
```

```
</smtp>
```

```
</mailSettings>
```

```
</system.net>
```

- Email address and user friendly name of sender, email address(es) of receiver(s) (target), timeout in milliseconds (how long to reach contact with email server)

```
<alerts>
  <email>
    <sender address="servicemonitor@zylabtechnologies.com" name="ZyLAB Services
Monitor"/>
    <targets>
      <target address="administrator@network.com"/>
      <target address="admin@zylab.network.com"/>
    </targets>
    <timeout value="10000"/>
  </email>
</alerts>
```

## Define communication with log file

A logical default path for the log file needs to be defined:

```
<log4net>
  <appender name="RollingLogFileAppender" type="log4net.Appender.RollingFileAppender">
    <param name="File" value="c:\\logs\\ZyLAB.ServiceMonitor.NTService.log" />
```

## Define time outs

- The LifesignCheck.Interval value defines (in milliseconds) how often the ServiceMonitor.NTService is checked. The HealthCheck.Interval value defines (in milliseconds) how often the ZyLAB services are checked.

```
<timers>
  <add key="LifesignCheck.Interval" value="15000"/>
  <add key="HealthCheck.Interval" value="15000"/>
</timers>
```

# Configuration Services

## ZySCANService.config

In the ZySCANService.config file configuration parameters can be adjusted. This file can be found in the directory {Common Application Data}\ZyLAB\ZySCANService.

Common Application Data for Windows 2000/XP: c:\documents and settings\all users\application data

Common Application Data for Vista: c:\CommonAppData

Most parameters of the ZySCAN Service can be configured via the Service Manager or in ZySCAN, except for one: The name of the message queue to which alerts are sent about the status of the service should be equal to the name mentioned in the ZyLAB.ServiceMonitor.NTService.exe.config file.

ZySCANService.config	ZyLAB.ServiceMonitor.NTService.exe.config
xpath zylab/zyscanservice/settings/message queue <messagequeue>zylab_servicemonitor _lifesign_queue</messagequeue>	path configuration/zylab/serviceMonitor/ntService/remoteObjects below the entry with key "MSMQ.QueueName"



## ZyTIMERService.config

The ZyTIMERService.config file is created on {Common Application Data}\ZyLAB\ZyTIMERService\ZyTimerService.config.

Common Application Data for Windows 2000/XP: c:\documents and settings\all users\application data

Common Application Data for Vista: c:\CommonAppData

# Using the ZyLAB Services Monitor Manager

## Conditions

You want to monitor all current ZyLAB services and restart them if the services are stopped unintended.

## Instructions

1. Browse to the ZyLAB Services Monitor Manager.  
For example, [http://server\\_name/enterprise](http://server_name/enterprise) or direct using [http://server\\_name/ZSM/default.aspx](http://server_name/ZSM/default.aspx).
2. To configure the ZyLAB Services Monitor Manager, click Options.
3. Define the computers on which the services must run.
  - ♦ Select a Domain from the dropdown list box.
  - ♦ Select one or more (use the Ctrl key) available computers.
  - ♦ Click the > button.
4. Define the services.
  - ♦ Select one or more (use the Ctrl key) available services.
  - ♦ Click the > button.
5. To define the Refresh Rate, select the checkbox Enable automatic refresh, refresh every *nn* seconds.
6. Define the Ping Time-out. The selected computers must reply within the defined number of milliseconds.
7. Define the maximum number of services on one page.
8. Define the maximum number of lines in the Message box.
9. Define if you want to enable logging.
10. Click OK.
11. Select a service.
12. Click the Settings button.
13. For the ZySCANSservice:
  - ♦ Select the type of processing to perform (OCR only / Export only / OCR & export / Entire job)
  - ♦ Add the directories to monitor (define the path, and click Add)
  - ♦ Define the Time-out value
14. For the ZyTIMERServices, define the following settings:

- ♦ Select the Index name you want to build at specific intervals.
- ♦ If want to build the index automatically when new/changed documents are added, select the checkbox Automatic mode, in combination with the action Quick Build.
- ♦ Otherwise, select a Date and Hour/Minute.  
If you process many documents per day, schedule the starting time after office hours. This saves you time and keeps processor usage at an acceptable level.
- ♦ Determine the Frequency.
- ♦ Select one or more Actions.  
For more information on the different actions, see below.
- ♦ Click OK.

15. Select a service, and click Start.

16. To view the log file of a service, select it, and click the Service Log button.

17. To view the log file of the ZyLAB Services Monitor Manager, click the Monitor Log button.

### Result

You have started using the ZyLAB Services Monitor Manager.

### Add, Quick build, Update, Optimize, or Extract Data?

#### Add

- To build a new index
- To add all new documents
- To update existing documents

The Add option uses the date to check if documents are new or updated. All documents are checked.

#### Quick build

Use Quick Build to quickly index documents that are marked new, changed or deleted. All other documents are skipped.

Marked documents are known to ZyINDEX, even before indexing starts because they have an entry in the database. These references to the documents are created when they are exported to the index data directories with ZySCAN or when they are imported to the index data folder with the ZyINDEX import directory. Since only marked documents are indexed and all other documents are skipped, the indexing process is accelerated.

You can only use Quick Build, if a link to the index is present. Also, check if 'Enable Quick Build' is selected (ZyINDEX > Options > Global Settings > Index preferences). The default value for the Quick Build option for a specific index will be taken over from the Global Settings. Old indexes will be built according to the Global Settings.

### Update

- To index moved source documents
- To delete selected documents from the index

### Optimize

To optimize index storage space and search speed. Use this option to maintain the index after large changes.

### Extract Data

To extract document properties, file system, concept, language and/or field information from documents while indexing.