
ASP/IIS Optimization Tips

By Juan T. Llibre

WROX

Topics to be covered

- Preliminary Considerations
- A Few More Basic Items
- Performance Differences between IIS 4 and IIS 5
- Important New IIS Settings
- Changed IIS Settings
- Don't Forget To...
- Optimize Data Access Performance
- Final Recommendation

Preliminary Considerations

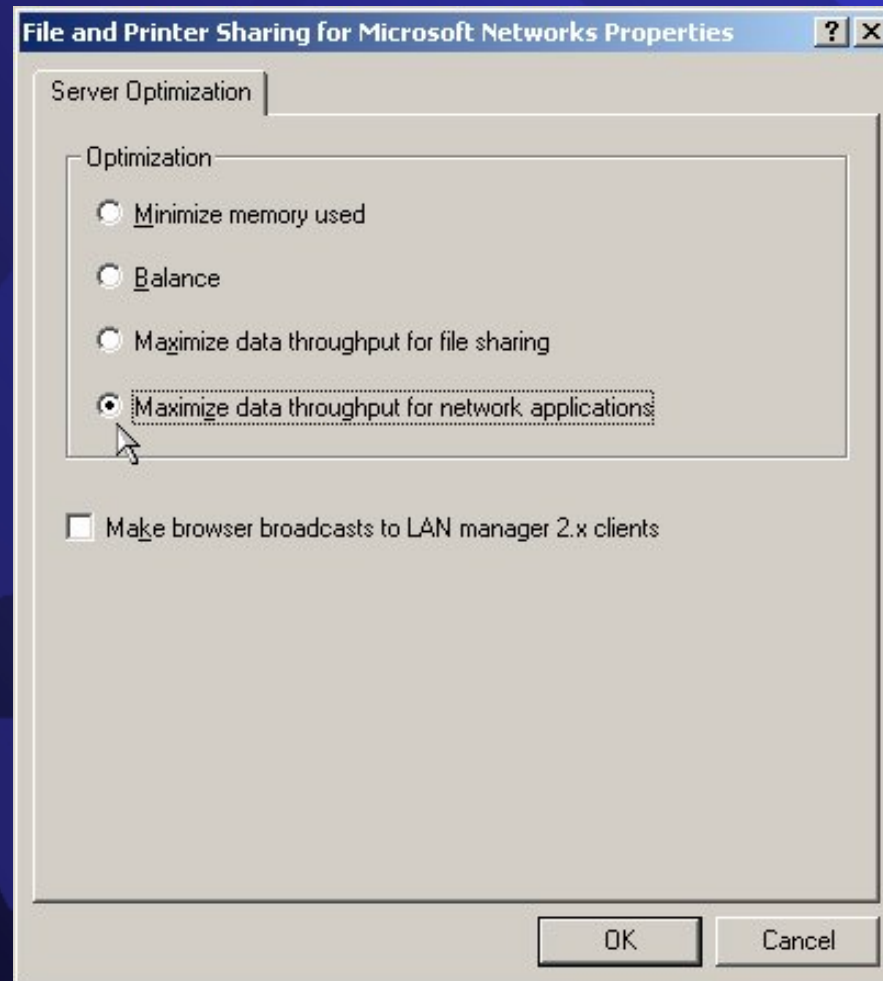
- Install as much RAM as possible.
- Add as many, and as fast, processors as you can.
- Get the best network cards that you can
- NEVER develop apps on the server's console.
- Contract for as much bandwidth as you can.
- Use disk subsystems which perform optimally (RAID, Solid State, IDE RAID):

http://www.quantum.com/src/whitepapers/wp_ntscalesd.htm

<http://www.iwillusa.com/>

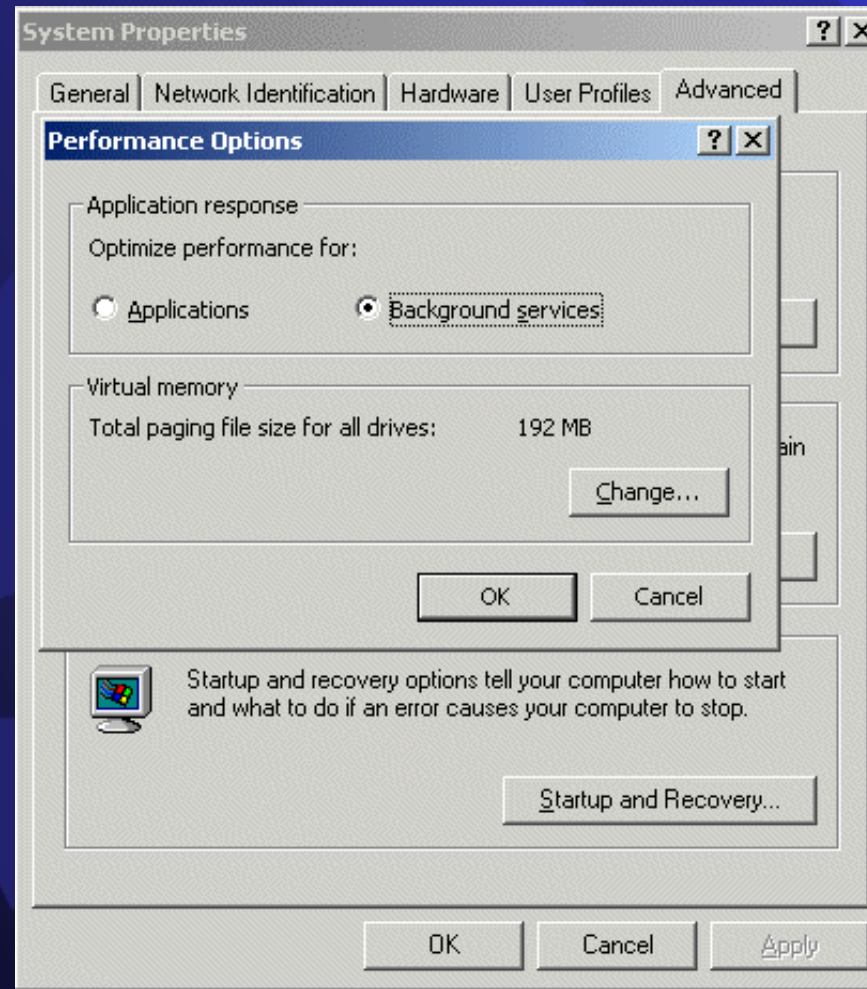
A Few More Basic Items

- Optimize memory for Internet Server tasks.



A Few More Basic Items

- Optimize memory for Internet Server tasks.



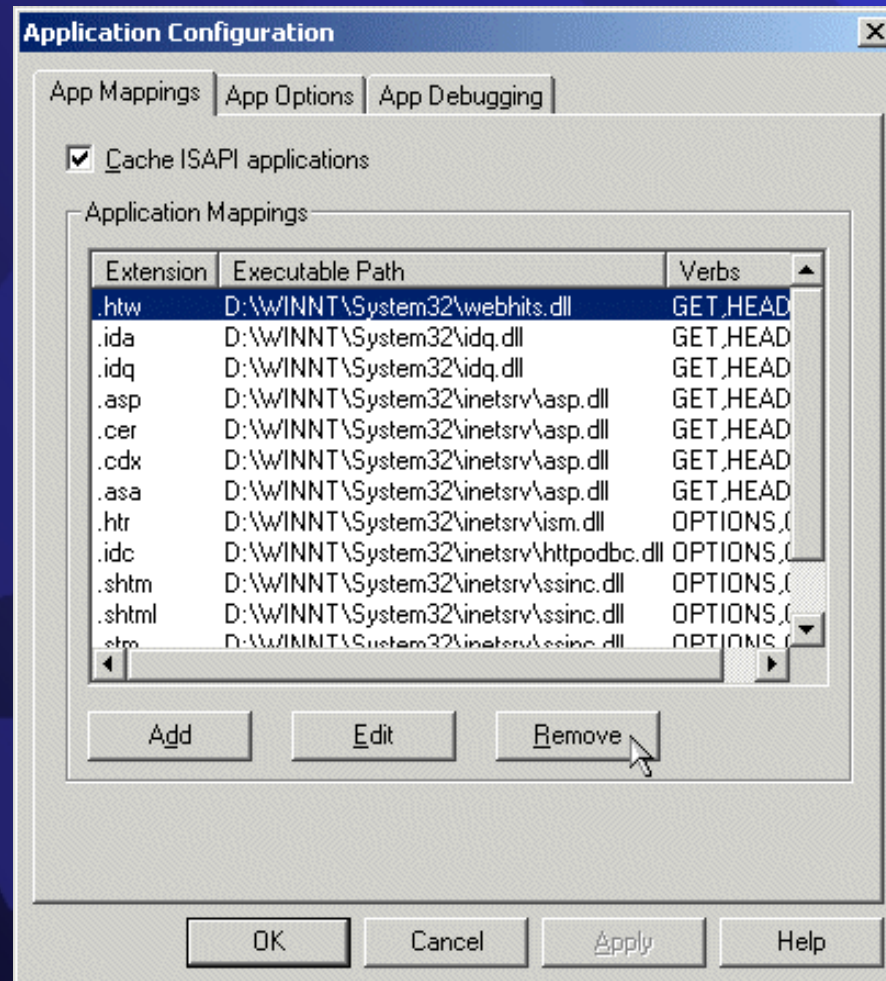
Configuration

- Hardware Needs : *a single server is not enough.*
- Dedicated box for SQL Server.
- Hardware Solution : Cisco Director
- Software Solution : NLBS
- Don't install unneeded applications on the server!

WFO

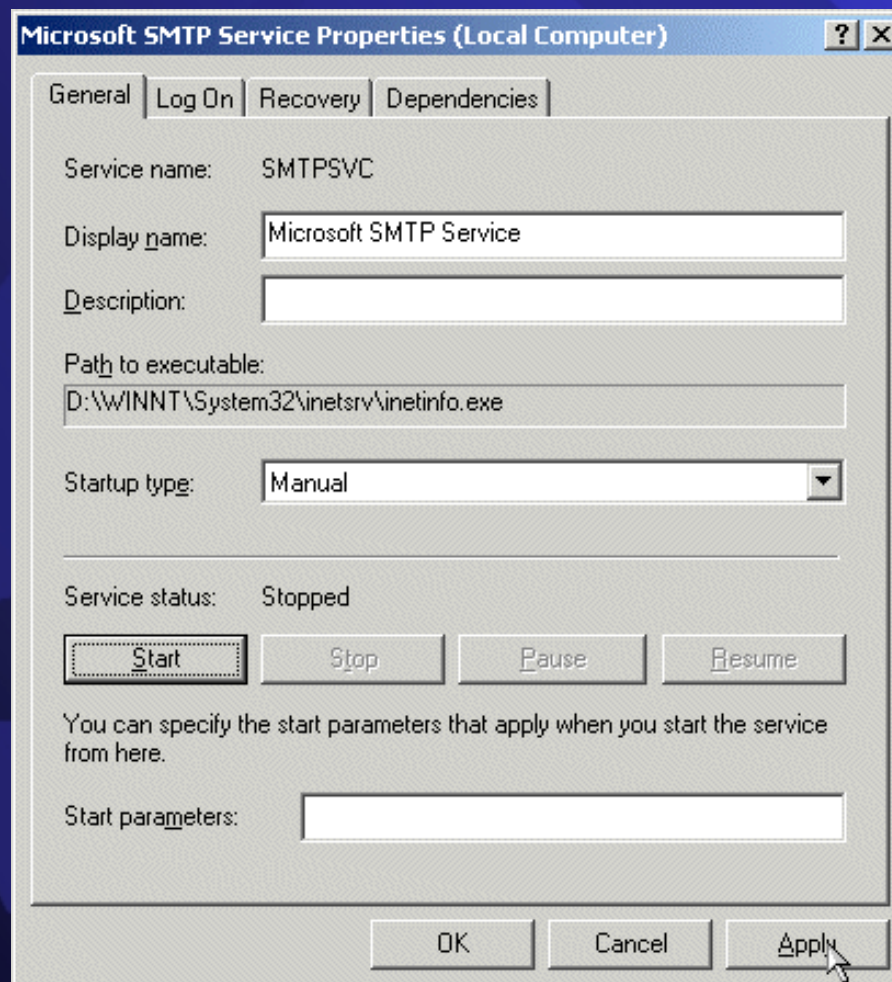
A Few More Basic Items

- Disable unneeded Application Mappings.



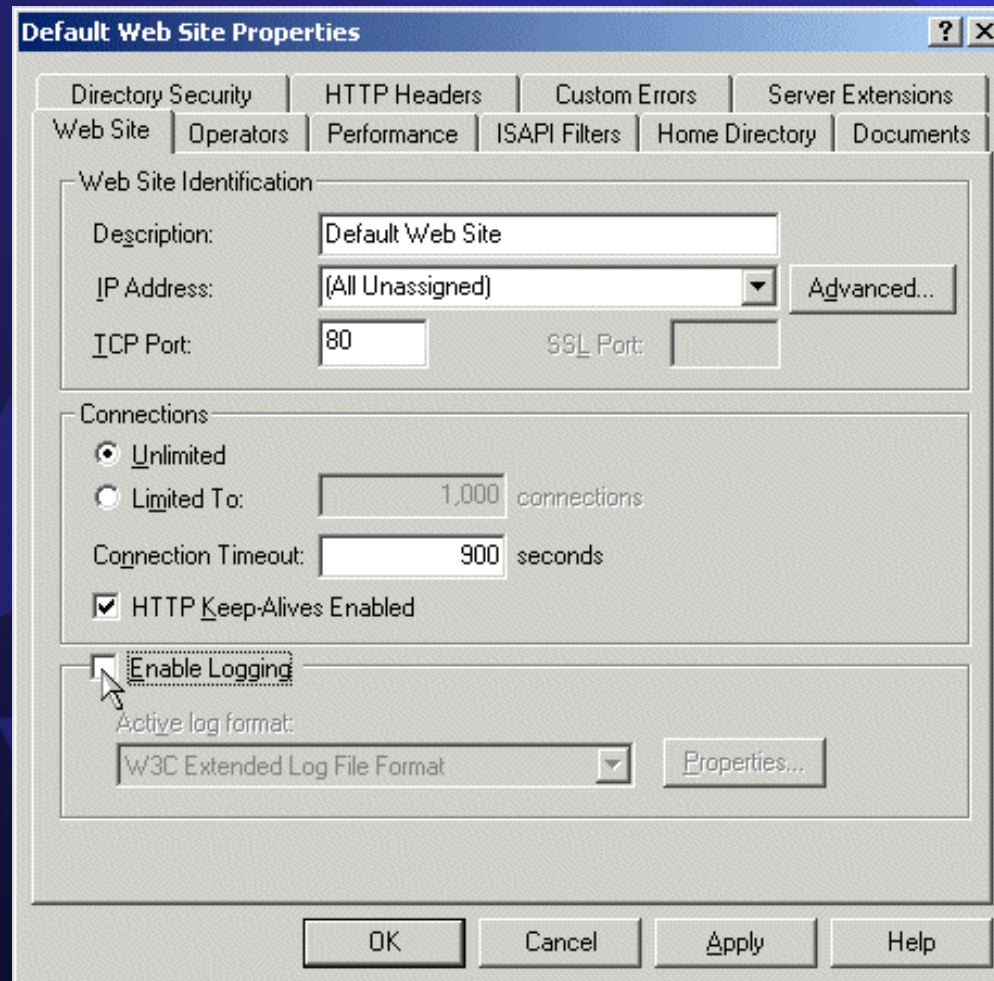
A Few More Basic Items

- Don't Run Unneeded Services.



A Few More Basic Items

- Disable logging when it's not needed any more.



A Few More Basic Items

- Configure NT Server 4.0 to be a Member Server.

If Win2000, configure as Stand-Alone Server

Performance Differences between IIS 4 and IIS 5

- COM Objects Are Released Earlier

Close and set to **Nothing** any connections, recordsets, or any other object instances you have created as soon as they are no longer required.

- ASP Buffering Is on by Default
- IsClientConnected Can Be Used Before Content
- Save scriptless pages with .ASP Extension

Important New IIS Settings

- `AspQueueConnectionTestTime`
- `AspThreadGateEnabled`

WFO

Changed IIS Settings

- ProcessorThreadMax → ASPProcessorThreadMax

Use System Monitor to Check :

Processor: %Processor Time (for each processor)

Active Server Pages: Requests/Sec

Active Server Pages: Requests Rejected

Active Server Pages: Requests Queued

Web Service: Connections/Sec

To change, run Adsutil.vbs or use MetaEdit 2.1

```
adsutil.vbs set w3svc/AspProcessorThreadMax
```

```
<NewValue>
```

Changed IIS Settings

- AspScriptEngineCacheMax
- AspScriptFileCacheSize
- AspRequestQueueMax

IIS5's "Application Protection" replaces IIS4's "Run in a separate memory space".

Settings :

Low

Medium (Pooled)

High (Isolated)

Don't Forget To...

- Disable ASP Debugging
- Stress Test, Stress Test, Stress Test !
<http://webtool.rte.microsoft.com/>

[http://msdn.microsoft.com/workshop/
server/asp/server092799.asp](http://msdn.microsoft.com/workshop/server/asp/server092799.asp)

Optimize your Scripting !

Install the latest Scripting Engine !

[http://www.microsoft.com/scripting/
downloads/ws/x86/scripten.exe](http://www.microsoft.com/scripting/downloads/ws/x86/scripten.exe)

Don't Forget To...

Use advanced functions, like :

With RS

```
.CursorLocation = adUseClient
.CursorType = adOpenKeyset
.LockType = adLockOptimistic
.CacheSize = 50
.Source = "Select CustomerID, LastName, FirstName, from
Clients"
.ActiveConnection = cn
.Open
End With
```

Don't Forget To...

- Never use Dictionary Object in global.asa. Use Lookup Table Object, instead.
http://msdn.microsoft.com/workshop/server/downloads/lkuptbl_eula.asp
- Use functions to write your HTML.

```
<!-- #include file="header.asp" -->

<script language="vbscript" runat="server">

    Sub WriteBody()
        ` whatever your body contains
    End Sub

    WriteBody `call the WriteBody function
</script>

<!-- #include file="footer.asp" -->
```

Don't Forget To...

- Response. Write all your HTML:

```
<html>
<head>
<title>Test</title>
</head>
<body>
<%=date %>
</body>
</html>
```

...will always be slower than:

Don't Forget To...

```
<%  
Response.Write "<html>" & VbCrLf  
Response.Write "<head>" & VbCrLf  
Response.Write "<title>Test</title>" & VbCrLf  
Response.Write "</head>" & VbCrLf  
Response.Write "<body>" & VbCrLf  
Response.Write date & VbCrLf  
Response.Write "</body>" & VbCrLf  
Response.Write "</html>" & VbCrLf  
%>
```

WFOV

Don't Forget To...

➤ Use Local Variables.

```
Set a.b.c = a.b.d
```

```
If a.b.e = a.b.f then
```

```
' ...rest of code
```

```
Set Obj = a.b
```

```
' i.e., resolve "a.b" ONCE
```

```
Set Obj.c = Obj.d
```

```
' the value is obtained instantly,
```

```
' since "a.b" is already resolved
```

```
If Obj.e = Obj.f then
```

```
' the value is obtained instantly,
```

```
' since "a.b" is already resolved
```

```
' ...rest of code
```

Don't Forget To...

- Process server-side variables as local variables.

Instead of:

```
<%  
  If rs ("name")="Juan" Then  
    ' do something  
  End If  
  If rs ("name")="Joe" Then  
    ' do something  
  End If  
%>
```

Use:

```
<%  
  name= rs("name")  
  If name="Juan" Then  
    ' do something  
  ElseIf name="Joe" Then  
    ' do something  
  Else  
  End If  
%>
```

Don't Forget To...

- Process server-side variables as local variables - the same applies to the Request Object.

Instead of :

```
<%  
  If Request.Form("name")="Juan" Then  
    ' do something  
  End If  
  If Request.Form("name")="Joe" Then  
    ' do something  
  End If  
>
```

(continues...)

Don't Forget To...

Use:

```
<%  
name=Request.Form("name")  
If name="Juan" Then  
  ' do something  
ElseIf name="Joe" Then  
  ' do something else  
Else  
End If  
>
```

The same also applies to
Request.QueryString("somevalue")!

Don't Forget To...

- Use Literal Paths.

```
"c:\data\app\myfile.ext"
```

Will always be resolved faster than :

```
Server.MapPath "/app/myfile.ext".
```

Don't Forget To...

- Validate client-side if possible.
- Use as few server variables as possible.
- Don't redim arrays.
- No multiple languages in same script.

WFO

Optimize Data Access Performance

- Install The Latest MDAC !

`http://www.microsoft.com/data/download_250_rtm.htm`

- Bind Type Libraries.

```
<!-- METADATA NAME="Microsoft ActiveX Data  
Objects 2.5 Library"
```

```
    TYPE="TypeLib" UUID="{00000205-0000-  
0010-8000-00AA006D2EA4}"
```

```
-->
```

Optimize Data Access Performance

(cont'd)

➤ Make ADO Free-Threaded:

- Use .bat file :

```
X:\Program Files\Common  
Files\System\ado\makfre15.bat
```

- or use .reg file :

```
X:\Program Files\Common  
Files\System\ado\adofre15.reg
```

- Cache Results From Stable Data Sources.
- Don't Cache COM Objects.

Optimize Data Access Performance

- Use OLEDB Connection Strings.

Performance Comparison					
SQL			Access		
	OLEDB	DSN		OLEDB	DSN
Connection Times :	18	82	Connection Times :	62	99

Use Stored Procedures Whenever You Can.

- Always use `adCmdStoredProc` when executing a stored procedure.

Optimize Data Access Performance

- Set adExecuteNoRecords Option
- Create Views.
- Batch Related SQL Statements.
- Choose Cursor That Uses Least Resources.
- Index Your Databases Intelligently.
- Don't use ADO Add/Delete methods.
- Set ADO CacheSize property.

WFO

Final Recommendation

- Componentize your applications !

WFO

Credits

Microsoft :

Mark Anders

J.D. Meier

George Reilly

Mike Culver

Mom and Dad...

Wrox Press

WROX

*Good Bye.
See You in Amsterdam !*

Thanks for being here !

I hope these tips will be useful to you !

WROV

Questions?

wrox