

Tech Note 813

Troubleshooting Wonderware Information Server (WIS) Part Four: Client License Release

All Tech Notes, Tech Alerts and KBCD documents and software are provided "as is" without warranty of any kind. See the **Terms of Use** for more information.

Topic#: 002602

Created: December 2011

Updated: July 2012

Introduction

This troubleshooting guide is the fourth in a projected series.

This *Tech Note* discuss the license release issue [**WIS Client License cannot be released after IE Session is timed out**].

The Wonderware License Release Mechanism interacts extensively with Windows Security on IIS and COM+ components. Strict security rules on the WIS Server can cause various session license release problems.

Application Versions

- WIS 4.0 and later
- Windows 2003 Server SP2 (Scenarios 1 and 2)
 - IIS 6.x
- Windows 2008 Server all editions (Scenario 2)
 - IIS 7.x

Analysis

When you access the WIS Home page successfully, an IE (Internet Explorer) Session is created and this IE Session consumes one WIS client license. When the IE Session ends, the consumed client license is released back to the License Pool. You can end the WIS session in any of the following ways:

- IE Session times out due to inactivity after a pre-defined period in IIS.
- Closing WIS by closing the browser or by selecting **File/Exit** in the main IE menu.
- Clicking the Log off Link on the WIS Home page.

The WIS Client License Release issue is usually caused by the first two events. When either of the first two events happens, **IIS will base on its internal Session ID Pool** to raise a callback function which gives the Web Application (WIS) an opportunity to release the ended session's resources. In WIS, we use this opportunity to release the consumed client license.

Wonderware Technical Support has identified two troubleshooting scenarios.

- **DCOM Error: Failed to Impersonate the Anonymous User**
- **No DCOM Error but Failed to Call One of the WIS COM+ Components During the License Release Process**

Note: Before proceeding with the following scenarios, apply the following Microsoft Hot Fix (MS HF) for Windows 2003 SP2 on the WIS Server machine. Click the following link: <http://support.microsoft.com/default.aspx?scid=kb;EN-US;934903>. Then go to **Verify the License Release**.

Scenario: DCOM Error: "Failed to impersonate the Anonymous User..."

In this scenario, you see a lot of DCOM errors from the Event Viewer for **Applications**. The full error message is shown below:

Failed to impersonate the Anonymous User for ASP Application /LM/W3SVC/1/Root/Wonderware. Global.ASA OnEnd routines will not be executed.

Note: Impersonation means that the currently executing thread will run as a different identity than the process identity. Thus, if you impersonate the Anonymous user (IUSR_<MachineName>), the current thread will be that user, but the process (w3wp.exe at here) is still running as the account the process was started with.

The message means that IIS tried to access the web page **/[Wonderware/global.asa** on the function **Session_OnEnd()** in order to clean up the (ended) session's resources.

Because the session has already ended, all the runtime security contexts with this session cannot be retrieved, so IIS uses a windows **Anonymous** account called **IUSR_MachineName** to release the resources.

Cause Analysis

In Windows 2003, the IIS installation creates two anonymous users, **IUSR_<MachineName>** and **IWAM_<MachineName>**. They are stored in two places: the **IIS metabase** and **Windows Local Users**.

If the password at the two places are not identical, anonymous authentication fails and generates the DCOM Error.

The password has to be same in the two places. This is what we need to work on for Scenario one (IIS Anonymous Password Rule). The following list provides ways to fix the DCOM Error in different situations.

Note: You must have the Admin privileges to complete the following tasks.

Scenario Solution

Before proceeding, do an IIS 6.0 Backup. See <http://support.microsoft.com/kb/324277> for the detailed procedure.

Quick Fix

It is common for a company to apply the same IIS template on different WIS nodes, at multiple sites. This approach can save some IIS setting-time but it is also one of the root causes of the DCOM Error. Per the Password Rule mentioned in above, when IIS tries to callback on **Session_OnEnd()**, Windows finds that the password between IIS Metabase and SAM database is not synchronized and generates the DCOM Error.

To apply the Quick Fix

1. Delete both **IUSR_<MachineName>** and **IWAM_<MachineName>** from the Local Users list (Figure 1 below).

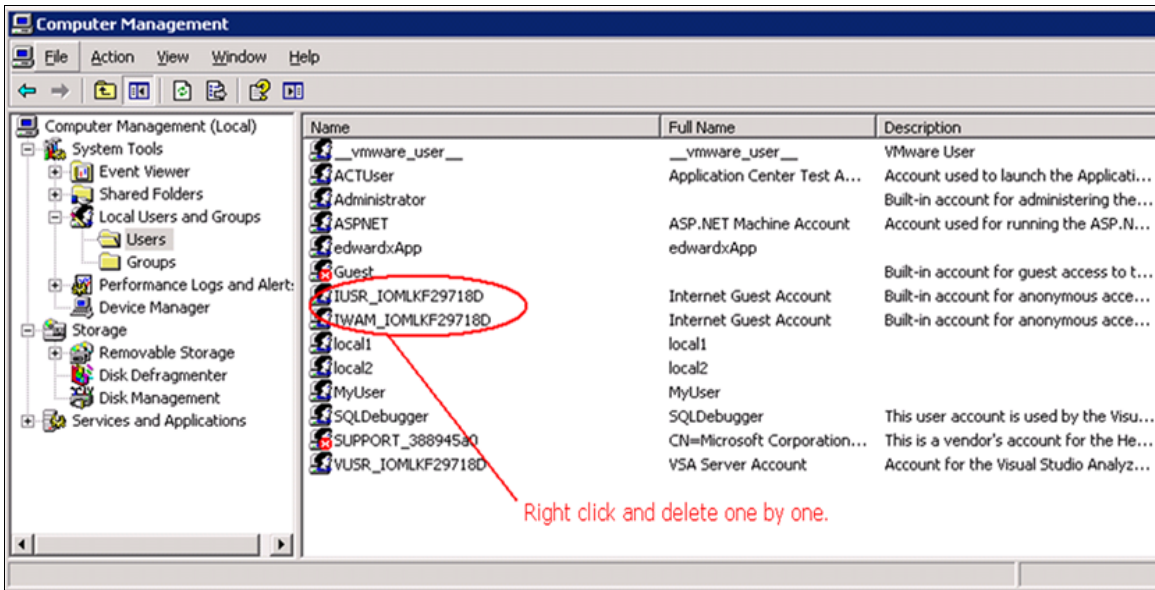


FIGURE 1: DELETE THE ANONYMOUS USER ACCOUNTS

2. Then, run the iisreset command from a DOS window.

```
cmd>iisreset
```

The **iisreset** command creates the **new IUSR_<MachineName>** and **IWAM_<MachineName>** in the Local Users list, and then sync the passwords automatically.

3. Check to see whether the WIS license was released successfully or not. See the **Verify License Release** section for details.

Additional Steps

This Quick fix might not resolve the DCOM Error in all circumstances.

Remember that during the IIS installation, **IUSR_<MachineName>** and **IWAM_<MachineName>** are added into the **Guests** group by default. However, in many cases, IT can set strict security rules for the **Guests** group.

When this is the case

1. Remove the two accounts from the **Guests** group and add them into **IIS_WPG** group (Figure 2 below).

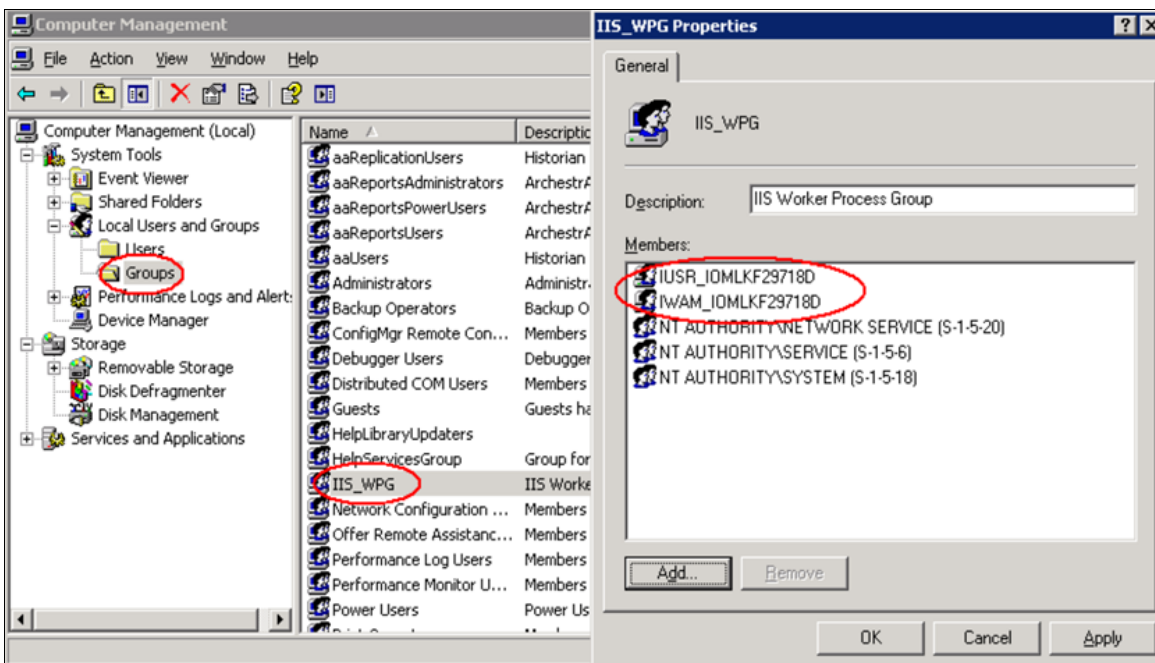


FIGURE 2: ADD THE ANONYMOUS ACCOUNTS TO THE "IIS_WPG" GROUP

2. Ensure the following are true:

- The directory **[c]:\inetpub\wwwroot\[Wonderware]** has Read and Write permissions for the **IIS_WPG** Group.
- The **IUSR_<MachineName>** and **IWAM_<MachineName>** accounts are not disabled or expired.

3. **Verify License Release.**

Deep Fix

If the previous steps do not resolve the DCOM Error, you need to synchronize the password manually.

The following steps describe using the IIS script file at **[c]:\ Inetpub\AdminScripts\adsutil.vbs** to do this.

- Locate all instances of the **IUSR_<MachineName>** (Anonymous User Name) by running the following command:

```
c:\ Inetpub\AdminScripts>cscript.exe adsutil.vbs find anonymoususername
```

Normally, this command returns

```
W3SVC (IIS World Wide Web Publishing Service - Manages HTTP protocol and HTTP performance counters)
```

In one case, Wonderware Tech Support has seen the following returned:

```
W3SVC
W3SVC/1/ROOT (The first site of W3SVC - Default Web Site)
```

To synchronize a common password for IIS and Windows Users

1. Define a common password. For this example, we use **CommonAnonymousPassword1**.
2. Run the following commands:

```
[c]:\ Inetpub\AdminScripts>cscript.exe adsutil.vbs set w3svc/anonymoususerpass "CommonAnonymousPassword1"
[c]:\ Inetpub\AdminScripts>cscript.exe adsutil.vbs set w3svc/1/ROOT/anonymoususerpass "CommonAnonymousPassword1"
```

3. Set this password as **CommonAnonymousPassword1** for **IUSR_<MachineName>** and **IWAM_<MachineName>** items in the Windows **Users** group.

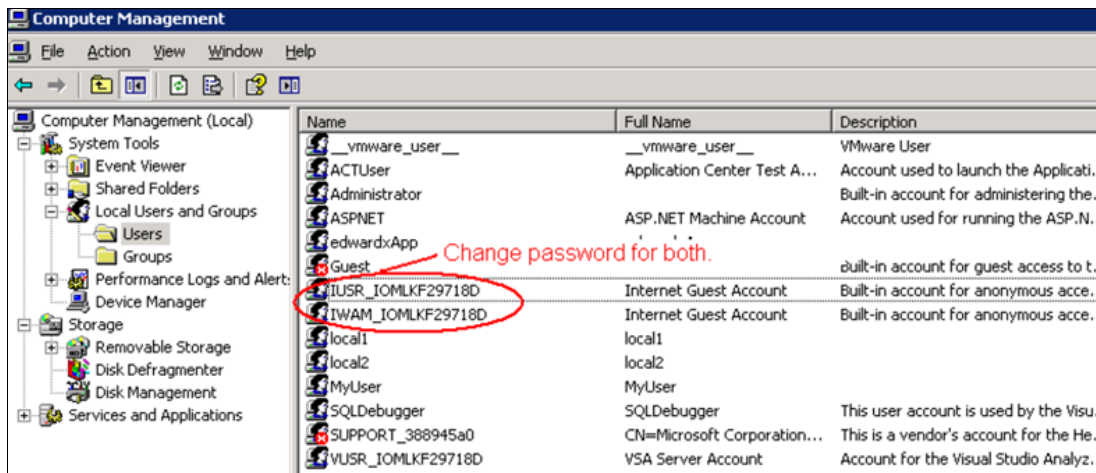


FIGURE 3: CHANGE PASSWORD FOR BOTH ANONYMOUS USER ACCOUNTS

4. Run the **iisreset** command.
5. **Verify License Release.**

Scenario: No DCOM Error, but Failed to Call One of the WIS COM+ Components During the License Release Process

In this Scenario, either we have not seen the DCOM Error described in the scenario one, or it has been fixed but WIS Client License still cannot be released. The common reason for this issue is that **IUSR_<MachineName>** does not have access permission to WIS COM+ components.

Verify the following:

- **Missing "Everyone" account in WIS COM+ Roles (below).**
- **IUSR_<MachineName>** and **"Everyone"** accounts are not equivalent.

Missing "Everyone" Account in WIS COM+ Roles

The WIS Configurator configures the **Everyone** account into the WIS COM+'s **Read Only User** Role (Figure 4 below).

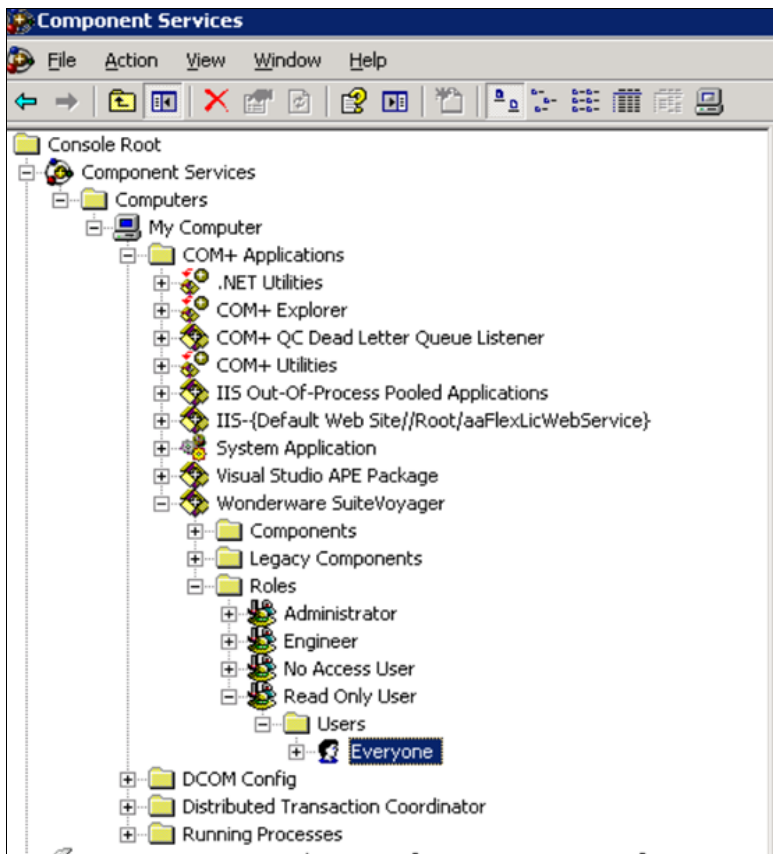


FIGURE 4: CHECK THE EVERYONE ACCOUNT

The **Everyone** account is also used to allow **IUSR_<MachineName>** to interact with the WIS COM+ component, so that the the License Release function in the COM+ component can be executed when the session times out.

However, some WIS administrators remove the **Everyone** account from the **Read Only User** Role because they think that "Everyone" having the right to access the WIS Portal is a security risk.

The workaround for this security concern is to add a new Role and include the **Everyone** User in that Role. In this example, it's called **ReleaseLicense**. WIS does not know the **ReleaseLicense** role exists, but the IIS Session Timeout callback will see the new role and **IUSR_<MachineName>** can then access the WIS COM+ component. Figures 5 and 6 (below) explain adding the new Role and the **Everyone** User.

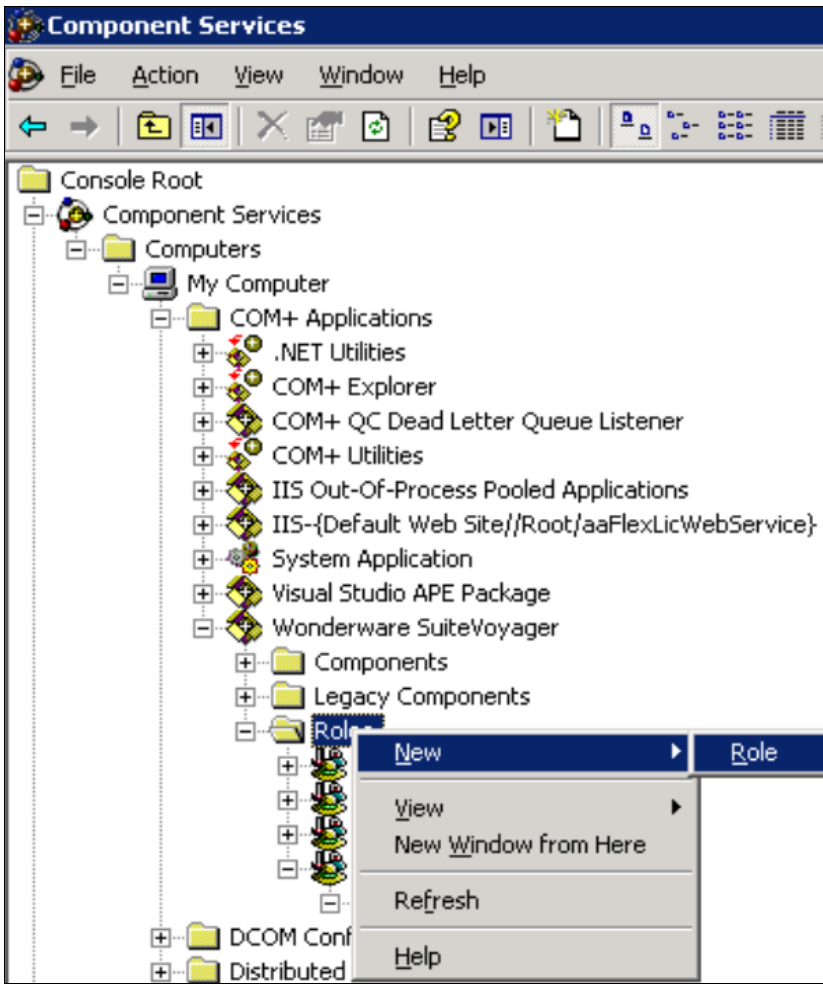


FIGURE 5: ADD A NEW ROLE UNDER THE WONDERWARE SUITEVOYAGER COM+

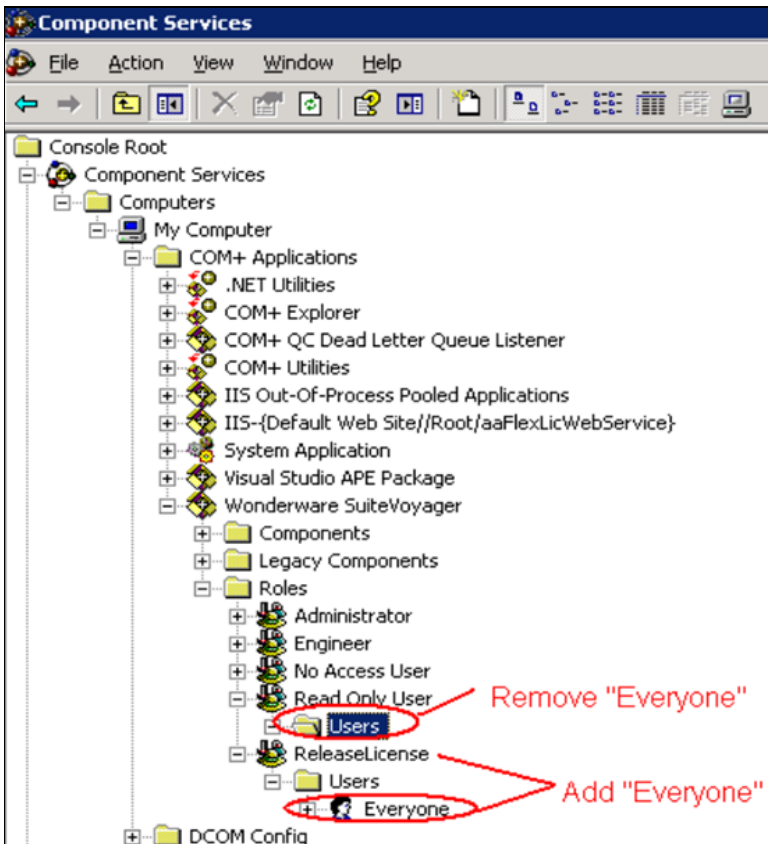


FIGURE 6: ADD EVERYONE ACCOUNT TO THE RELEASELICENSE ROLE

- Verify License Release.

IUSR_<MachineName> (Anonymous User) and "Everyone" Accounts are Not Enabled

Another possible reason that a WIS Client License cannot be released is that the **IUSR_<MachineName>** anonymous account is not the same as the **Everyone** account. The **Everyone** account and the anonymous accounts do not match because the **Disabled** option is set in the Local Group Policy object. Figure 7 (below) shows the correct setting in this context.

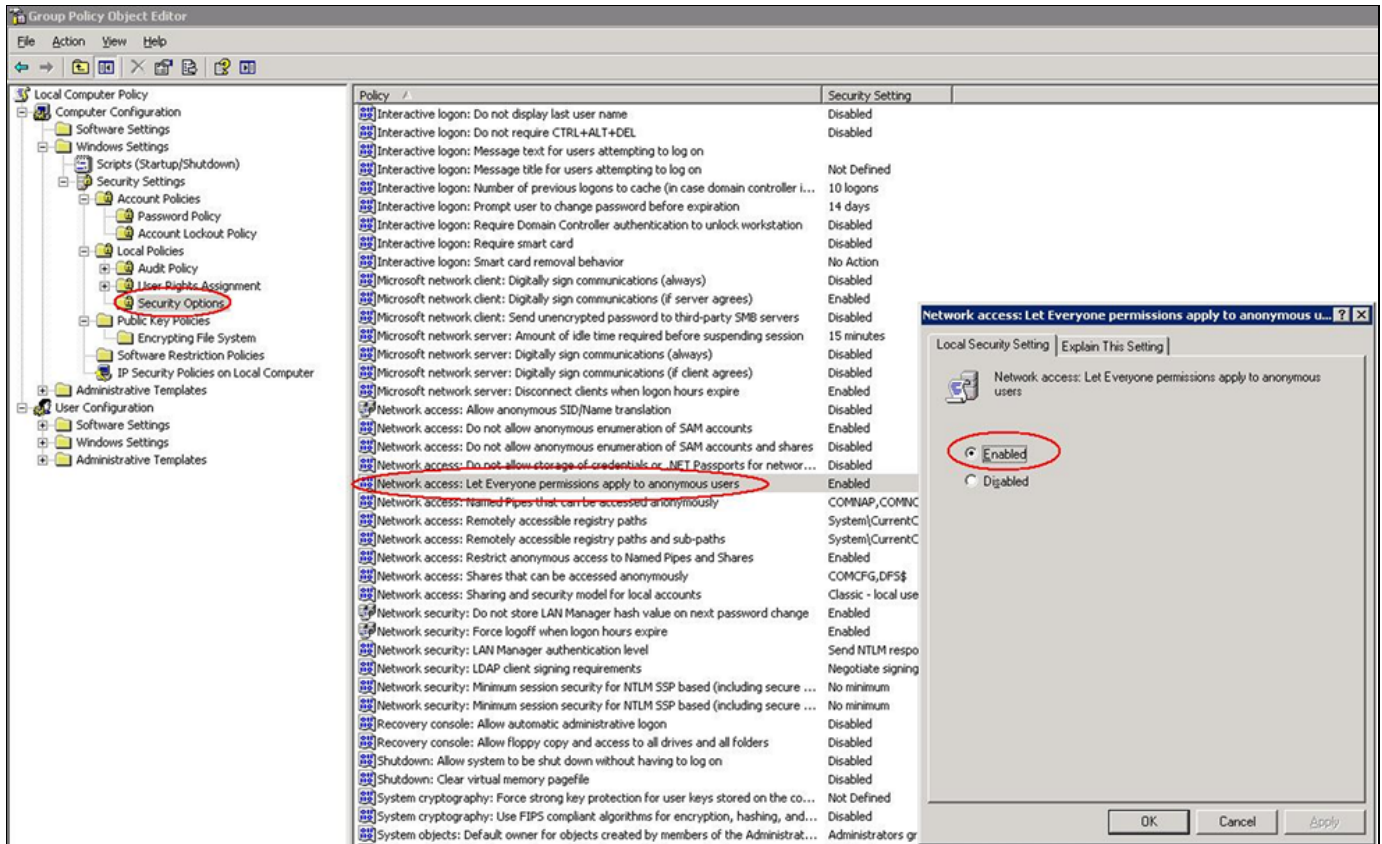


FIGURE 7: ENABLE "EVERYONE" PERMISSIONS FOR "ANONYMOUS" ACCOUNTS

Windows 2008 Server Anonymous User Account

In IIS 7.x for Windows 2008 Server, the built-in **IUSR** account replaces Windows 2003's **IUSR_MachineName** account. This built-in account does not need a password and will be the default identity that is used when anonymous authentication is enabled.

Therefore, all the topics related to the **IUSR_MachineName** in this *Tech Note* are no longer available under IIS 7.x/Windows 2008 Server.

Instead, make sure that the **IUSR** account is in **IIS_IUSRS** group. This group has access to all the necessary file and system resources so that an account, when added to this group, can seamlessly act as an application pool identity.

- In order to make sure all of our settings on **IUSR_MachineName** are still good in IIS 7.x of Windows 2008 Server, add **IUSR** into the **IIS_IUSRS** group (Figure 8 below).

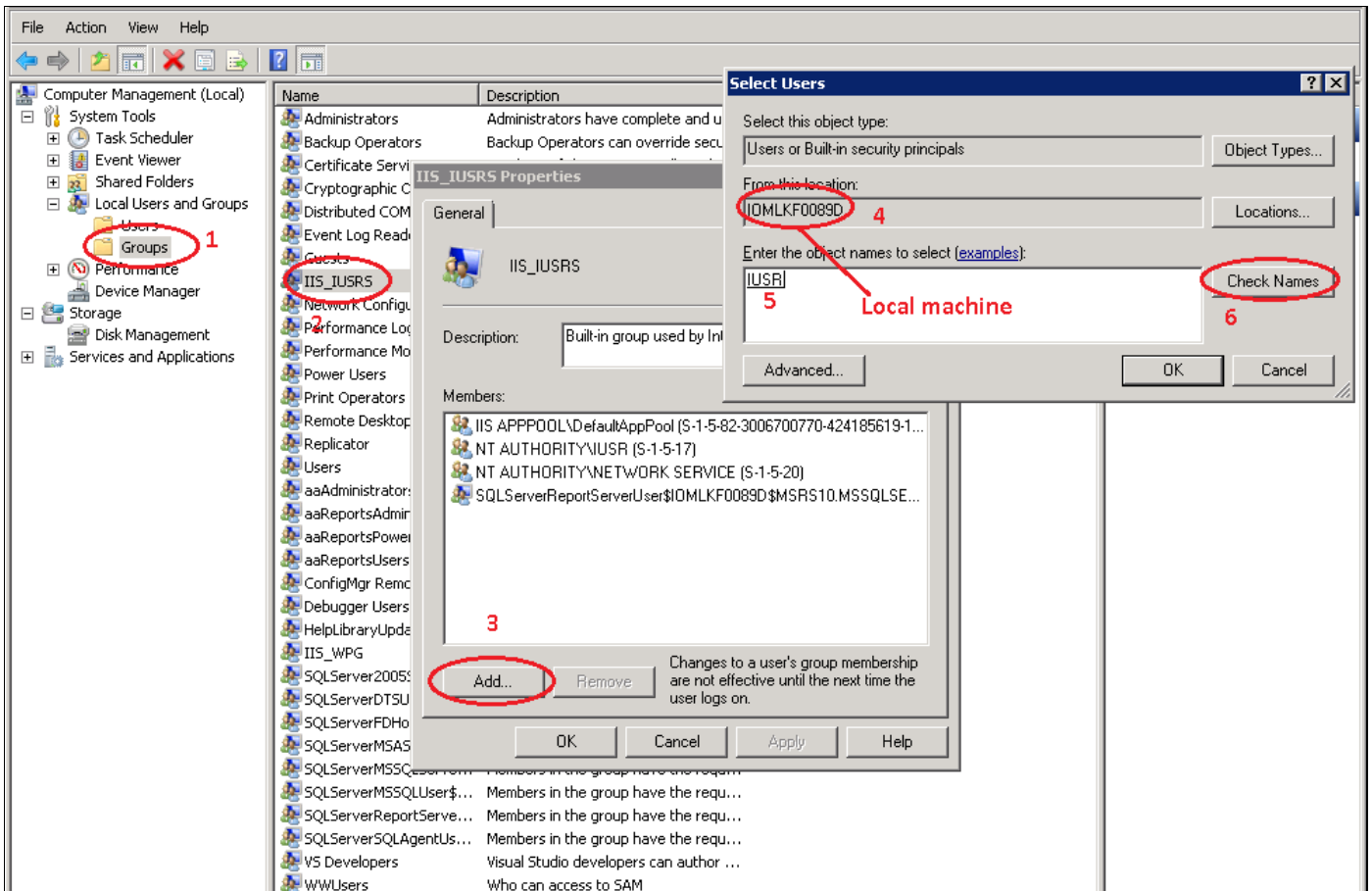


FIGURE 8: Add IUSR ACCOUNT INTO THE IIS_IUSR GROUP

Verify License Release

1. To save time, configure the session timeout value to 1 minute. Figures 8 and 9 (below) show the setting in IIS 6 (Internet Information Services/SWeb Sites/Default Web Site) and IIS 7 (Connections/IIS/ASP).

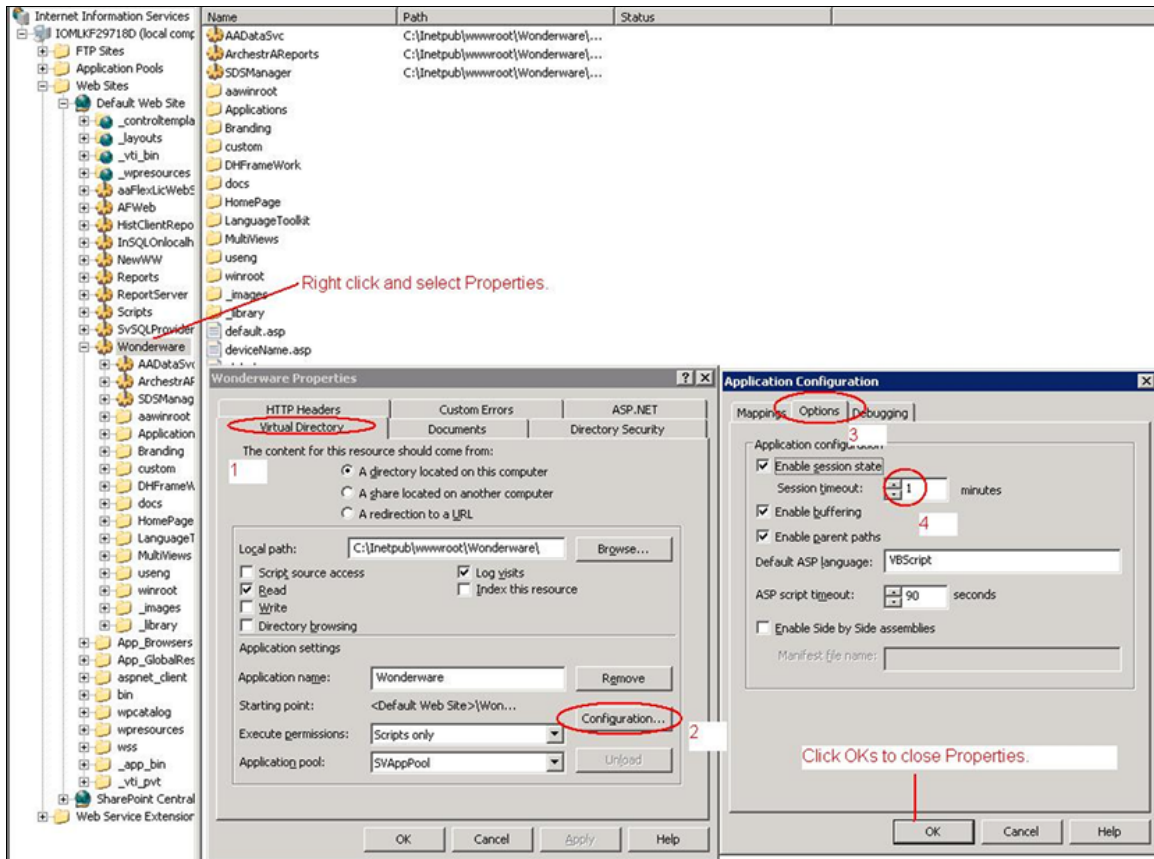


FIGURE 9: SET THE DEFAULT SESSION TIMEOUT VALUE IN IIS 6.0

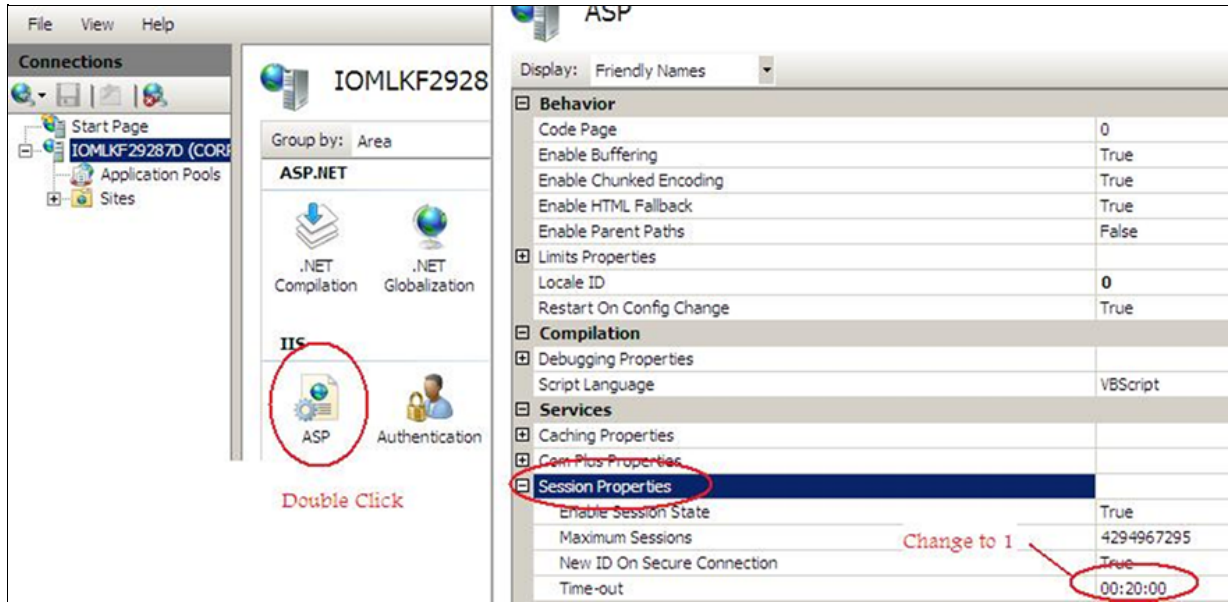


FIGURE 10: SET THE DEFAULT SESSION TIMEOUT VALUE IN IIS 7.X

2. Logon WIS from another machine. From WIS License Manager, you will see the second line in the Client Licenses List.

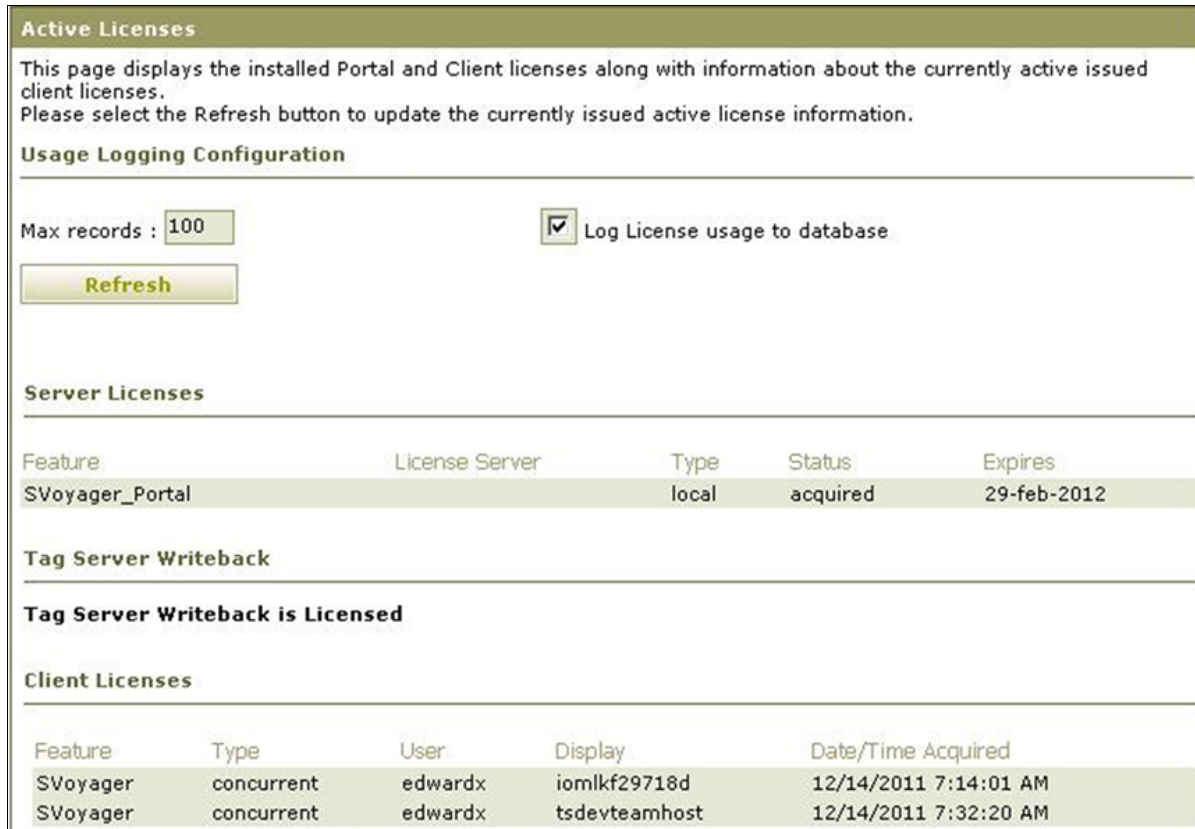


FIGURE 11: WATCH THE SECOND LINE IN THE CLIENT LICENSES LIST

3. Close the second instance of WIS. Wait about 1 minute and click the Refresh button (F5). If the second line disappears, the Client License Release issue is fixed.
4. Recycle all WIS client license(s) by restarting the **Wonderware License Manager** service.
5. Change the Session Timeout value back to the default (20 minutes) or to the previous setting.

Conclusion

The Wonderware License Release Mechanism interacts extensively with Windows Security on IIS and COM+ components. Applying strict security rules on the WIS Server can cause various session license release problems. Please **contact Wonderware Technical Support** for any exception to this Tech Note.

References

- [TN 786 Troubleshooting Wonderware Information Server \(WIS\): Part 1](#)
- [TN 790 Troubleshooting Wonderware Information Server \(WIS\): Part 2](#)

- **TN 794 Troubleshooting Wonderware Information Server (WIS): Part 3**

E. Xu

Tech Notes are published occasionally by Wonderware Technical Support. Publisher: Invensys Systems, Inc., 26561 Rancho Parkway South, Lake Forest, CA 92630. There is also technical information on our software products at [Wonderware Technical Support](#).

For technical support questions, send an e-mail to wwsupport@invensys.com.

 **[Back to top](#)**

©2013 Invensys Systems, Inc. All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, broadcasting, or by any information storage and retrieval system, without permission in writing from Invensys Systems, Inc.
[Terms of Use](#).