

[Issue Description]

We were seeing application error events logged many times per day on our SharePoint WFEs related to **database deadlocks**.

[NOTE] Microsoft suggested uninstalling any 3rd party products, especially products that implement their own timer jobs

```
Log Name:      Application
Source:       Microsoft-SharePoint Products-SharePoint Foundation
Date:        1/22/2013 11:41:03 AM
Event ID:     5586
Task Category: Database
Level:       Error
Keywords:
User:
Computer:
```

Description:
Unknown SQL Exception 1205 occurred. Additional error information from SQL Server is included below.

Transaction (Process ID 187) was deadlocked on lock resources with another process and has been chosen as the deadlock victim. Rerun the transaction.

Event Xml:

```
<Event xmlns="http://schemas.microsoft.com/win/2004/08/events/event">
  <System>
    <Provider Name="Microsoft-SharePoint Products-SharePoint Foundation" Guid="{6FB7E0CD-52E7-47DD-997A-241563931FC2}" />
    <EventID>5586</EventID>
    <Version>14</Version>
    <Level>2</Level>
    <Task>3</Task>
    <Opcode>0</Opcode>
    <Keywords>0x4000000000000000</Keywords>
    <TimeCreated SystemTime="2013-01-22T19:41:03.866670500z" />
    <EventRecordID>283043</EventRecordID>
    <Correlation ActivityID="{C5DE8076-FB57-483A-AB42-C87CD81F0AB1}" />
    <Execution ProcessID="7828" ThreadID="6632" />
    <Channel>Application</Channel>
  </System>
  <EventData>
    <Data Name="int0">1205</Data>
    <Data Name="string1">Transaction (Process ID 187) was deadlocked on lock resources with another process and has been chosen as the deadlock victim. Rerun the transaction.</Data>
  </EventData>
</Event>
```

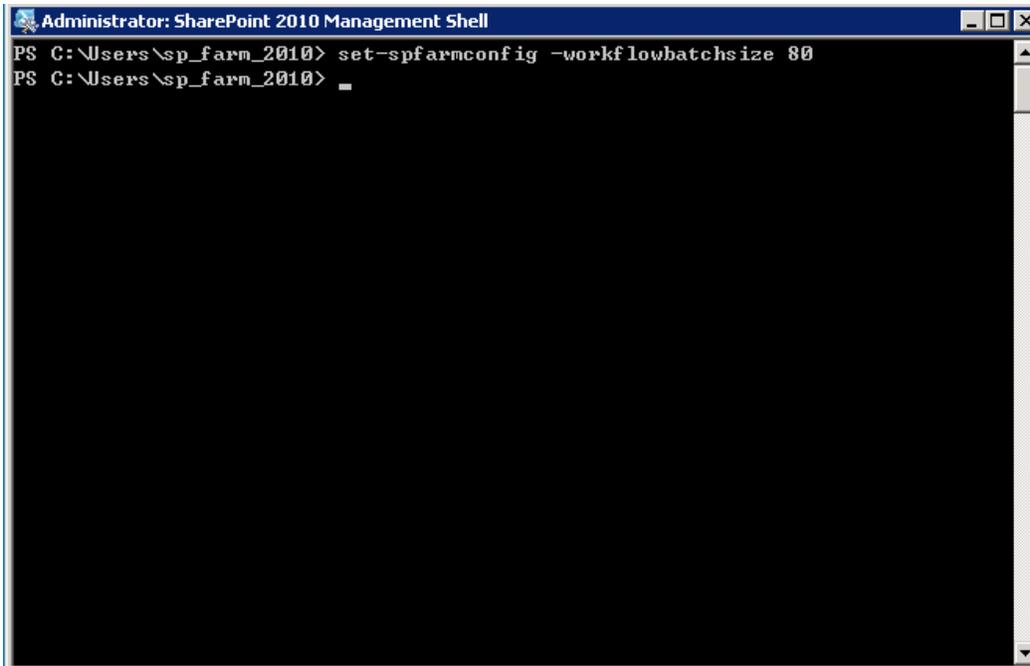
[Issue Solution]

Below is the plan to optimize the workflow schedule.

For SharePoint 2010

Server side

Please log on your SharePoint server and run PowerShell (Start -> All Programs -> Microsoft SharePoint 2010 Products -> SharePoint 2010 Management Shell), insert "set-spfarmconfig -workflowbatchsize 80" to decrease the workflow number which is executed by service for one time(The default number is 100), in order to increase the response speed. Meanwhile, it might cause delay of some workflows a little bit.



SharePoint side

1. Please go to [Central Administration](#) → [Monitoring](#) → [Review job definitions](#) to find the timer job “Workflow” and make sure the recurring schedule to be “5 minutes”. Increase this number will help to decrease the probability of deadlock but delay some workflows.

Job Title	Workflow
Job Description	Processes workflow events.
Job Properties This section lists the properties for this job.	Web application: N/A Last run time: 2/27/2013 4:30 PM
Recurring Schedule Use this section to modify the schedule specifying when the timer job will run. Daily, weekly, and monthly schedules also include a window of execution. The timer service will pick a random time within this interval to begin executing the job on each applicable server. This feature is appropriate for high-load jobs which run on multiple servers on the farm. Running this type of job on all the servers simultaneously might place an unreasonable load on the farm. To specify an exact starting time, set the beginning and ending times of the interval to the same value.	This timer job is scheduled to run: <input checked="" type="radio"/> Minutes Every <input type="text" value="5"/> minute(s) <input type="radio"/> Hourly <input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Monthly

2. Please go to [Central Administration](#) → [Monitoring](#) → [Review job definitions](#) to find the timer job “Workflow Failover”, there will be more than one “Workflow Failover” in different web apps. Please go to the one where uses Alert/Reminder workflows(such as 80) to set up the recurring schedule as “19 minutes”. This operation will decrease the probability of reading the locked database tables.

Job Title	Workflow Failover
Job Description	Processes events for workflows that have failed and are marked to be retried.
Job Properties This section lists the properties for this job.	Web application: SharePoint - 80 Last run time: 2/27/2013 4:30 PM
Recurring Schedule Use this section to modify the schedule specifying when the timer job will run. Daily, weekly, and monthly schedules also include a window of execution. The timer service will pick a random time within this interval to begin executing the job on each applicable server. This feature is appropriate for high-load jobs which run on multiple servers on the farm. Running this type of job on all the servers simultaneously might place an unreasonable load on the farm. To specify an exact starting time, set the beginning and ending times of the interval to the same value.	This timer job is scheduled to run: <input checked="" type="radio"/> Minutes Every <input type="text" value="19"/> minute(s) <input type="radio"/> Hourly <input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Monthly

3. Please go to [Central Administration](#) → [Monitoring](#) → [Review job definitions](#) to set up the rest timer jobs “Workflow Failover”, separately set up the recurring schedules as “21 minutes”, “22 minutes”, “23 minutes”, “24 minutes”, “26 minutes”...(Please ignore the number which is the multiple of “5” which is set up in #1).
4. Save all changes.

The main reason which caused the deadlock is that the “Scheduledworkitems” table in content data base is being visited and operated so frequently when Service dispatches the workflows if there are too many workflows which is in progress.

The plan to optimize the workflow schedule above shrinks the data which is operated in one time and increase the time interval to handle data, the final purpose is to decrease the probability of deadlocks.

Meanwhile, too many workflows in progress might be caused by some failed data hasn’t been removed successfully.

Please try to run the timer job “Workflow Failover” and “Workflow Auto Cleanup”, it will automatically removes the failed data.

Job Title	Workflow Failover
Job Description	Processes events for workflow
Job Properties This section lists the properties for this job.	Web application: Last run time:
Recurring Schedule Use this section to modify the schedule specifying when the timer job will run. Daily, weekly, and monthly schedules also include a window of execution. The timer service will pick a random time within this interval to begin executing the job on each applicable server. This feature is appropriate for high-load jobs which run on multiple servers on the farm. Running this type of job on all the servers simultaneously might place an unreasonable load on the farm. To specify an exact starting time, set the beginning and ending times of the interval to the same value.	This timer job is scheduled to r <input checked="" type="radio"/> Minutes Every <input type="text" value="15"/> <input type="radio"/> Hourly <input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Monthly
<input type="button" value="Run Now"/> <input type="button" value="Disable"/>	

For SharePoint 2007

Please run below query in PowerShell:

```
stsadm -o setproperty -pn job-workflow -pv "Every 8 minutes between 0 and 59" -url http://server\_name
```

The red number is the interval you would like to set up, and the server name can be found from:

Title	Web Application	Schedule Type
Bulk workflow task processing	SharePoint - 80	Daily
Change Log	SharePoint - 80	Daily
Database Statistics	SharePoint - 80	Daily
Dead Site Alerts	SharePoint - 80	Disabled
Disk Quota Warning	SharePoint - 80	Daily
Enable Permission Workflow Timer Job	SharePoint - 80	Minutes
Immediate Alerts	SharePoint - 80	Minutes
Recycle Bin	SharePoint - 80	Daily
Scheduled Approval	SharePoint - 80	Minutes
Scheduled Page Review	SharePoint - 80	Daily
Scheduled Unpublish	SharePoint - 80	Minutes
Search and Process	SharePoint - 80	Daily
SharePointBoost AD Information Sync Job	SharePoint - 80	Minutes
SharePointBoost Alert Timer Job	SharePoint - 80	Minutes
SharePointBoost Data Connector Timer Job	SharePoint - 80	Hourly
SharePointBoost Password Change Email Notification Job	SharePoint - 80	Hourly
SharePointBoost Permission Boost Timer Job	SharePoint - 80	Hourly
Usage Analysis	SharePoint - 80	Daily
Variations Propagate Page Job Definition	SharePoint - 80	Minutes
Variations Propagate Site Job Definition	SharePoint - 80	Minutes
Workflow	SharePoint - 80	Minutes
Workflow Auto Cleanup	SharePoint - 80	Daily
Workflow Follower	SharePoint - 80	Minutes

For SharePoint side, SharePoint 2007 doesn't provide options to set up related configurations.