**Introduction:**

PingUtil is a tool to diagnose connectivity problems.

When deployed to set of machines and invoked on each machine, the utility opens a listening socket and periodically send “pings” or short messages to other peer machines. It logs any connectivity problems to log file and also to the event log.

Note that the utility must be running all the machines under investigation.

**Invocation:**

PingUtil can be invoked using three modes

1. Specifying all machines explicitly: periodically connects to all the machines specified.

PingUtil –server: MachineToPing1 MachineToPing2

1. Providing azure deployment id : periodically queries Orleans Silo Metric table to query active silo machines using the deployment id provided and connects to all the machines obtained in this way.

PingUtil –azure:*<deployment-id>*

PingUtil -azure:loadtests634673211855207534

The connection string for azure is provided in PingUtil.exe.config file by adding “DataConnectionString” under appSettings.

<appSettings>

<add

key="DataConnectionString" value="DefaultEndpointsProtocol=https;AccountName=abc;AccountKey=8zywtrdKp3Bb+….=="/>

</appSettings>

1. Automatically detecting Azure deployment id and data connection string, when running in Azure .

PingUtil –auto

Does not work in Dev fabric.

**Ping Options:**

1. **Interval** between pings is 60 seconds by default. It can be overridden using –sleep:<n> option, where n is number of seconds.

PingUtil –sleep:<n>

PingUtil –azure:MyDeployment –sleep:120

(for two minute interval)

1. The default **Port** used is 30042 . However it can be overridden using –port:<port-number> option, where n is number of seconds.

PingUtil –port:<n>

PingUtil –azure:MyDeployment –port:42424

1. The default **LogFile** has name <user>-<machine>-d-MMM-yyyy-HH-mm.log. However it can be overridden using the

–logfile:<path> option, where path can be either a full or relative path.

PingUtil –logfile:<path>

PingUtil –logfile:\\myserver\share\file.txt

PingUtil –logfile:”E:\myfolder\file.txt”

PingUtil –logfile:file.txt

1. The **EventLog** events are created under “**Application**” with source name “**Windows Error Reporting**”. The source name can be overridden using the –eventsource:<name> option. You must have required permissions to be able to create and write to the named event source.

PingUtil –eventname:<name>

PingUtil –azure:MyDeployment –eventname:MyEventSource

(note: all options are lower case, must contain ‘:’ and no whitespaces allowed between option and its value)

**Deploying in Azure:**

When deploying the ping util in Azure, it is recommended to use the –auto option for the ping util to automatically detect the current deployment id and connection string.

Also, we provide here as a reference recommended sections of the ServiceDefinition.csdef file for deploying the PingUtil on Azure.

The ServiceDefinition.csdef should include:

<Endpoints>

<InternalEndpoint name="OrleansPingUtilEndpoint" protocol="tcp" port="30042" />

</Endpoints>

<Startup>

<Task commandLine="PingUtil.exe -auto" executionContext="elevated" taskType="background" />

</Startup>

The port should be either the port you specified in the command line arguments or the default port, which is 30042. The InternalEndpoint definition is necessary to tell Azure to open this port in the firewall on all role instances that run PingUtil.