Pingdom Integration Manual

How to monitor your backup service status

1. Introduction

This whitepaper explains how to include system health check in external monitoring systems. BackupAgent has decided to tailor its health check output towards Pingdom. However, the output can also be loaded in various other monitoring systems (e.g. Foglight).

The health checks have been released as part of BackupAgent server 4.2.1.6588 or newer.

2. Health checks

This chapter explains how the health checks work and how they can be configured. A standard set of health checks contains these tests:

- Availability check of the web services
- Database availability check
- Check to see if all necessary Windows services are running
- Benchmark test on network storage (default is write 500 KB in 100 ms)

2.1 HTTP Requests and responses

Health checks can be configured by sending http requests to the health URL of your BackupAgent server installation.
Example: https://{yourservice.com}/health/check.ashx?profileid=1.

Normally, all servers in a load-balanced application setup would be able to respond to these requests as they all resolve to the same licensed DNS. However, BackupAgent also supports checks to IP addresses of separate machines. In this way the health of a certain server can be checked.

If the health check succeeds, a HTTP response status 200 is sent back:

```
<pingdom_http_custom_check><status>OK</status><response_time>0.390625</response_time></pingdom_http_custom_check>
```

In case the health check fails, a HTTP response status 503 is sent back. Also, the 503 response returns HMTL data on which test failed:

```
<html><body><ol><li><strong><label>StorageLocationsCheck_1013</label>:</strong>
<br/><label>Errors: </label><ol><li>The StorageLocationsCheck_1013 check did not succeed within
the timeout of:
100ms</li></ol></li><li><strong><label>StorageLocationsCheck_1017</label>:</strong>
SUCCESS</li><li><strong><label>DatabaseCheck</label>:</strong>
SUCCESS</li><li><strong><label>WebserviceCheck</label>:</strong>
SUCCESS</li><li><strong><label>WindowsServiceCheck</label>:</strong>
SUCCESS</li></ol></body></html>
```

2.2 How to configure various checks

Checks are profile-based. Each profile has a unique ID and can contain certain tests. Checks become available by adding XML data to the *web.config* in *C:\Program Files\BackupAgent Provider\ManagementConsole\*

The web.config must be extended with a new section. Place this as a line amongst other sections:

```
<section name="CloudBackupHealthCheckSection"
type="ManagementConsole.Health.Configuration.CloudBackupHealthCheckSection,
ManagementConsole" />
```

The next step is to create a profile.Make sure the profile has a unique ID:

```
<CloudBackupHealthCheckSection activated="true">
  <profiles>
    <clear />
    <profile id="1" enabled="true">
      <checks>
        <check type="StorageLocationsCheck" uniqueName="StorageLocationsCheck_1002" checkAll="false" specificLocations="1015" timeOut="100" enabled="true"/>
        <check type="DatabaseCheck" uniqueName="DatabaseCheck"/>
        <check type="WebserviceCheck" uniqueName="WebserviceCheck"/>
        <check type="WindowsServiceCheck" uniqueName="WindowsServiceCheck" checkAll="false" specificServices="BackupAgentMetadataManagementService,BackupAgentProcessingService,BackupAgent Management Service" />
      </checks>
    </profile>
  </profiles>
</CloudBackupHealthCheckSection>
```

The above example is the default profile check, which checks all available tests and a single storage location with ID 1002. Please note the following properties:

uniqueName:	The name of the test in the report (in case of failure)
timeOut:	The benchmark timeout of the storage test
checkAll:	Checks all available locations or services (only available for *StorageLocation*- and*WindowsServiceCheck*)
specificLocations:	Checks only specific storage locations. The values are the IDs of the storage locations. You can look these up by logging in to the Management Console as administrator and navigating to Server Settings, tab Storage Locations. These values are comma-separated lists which cannot contain a separating space.
specificServices:	Checks only specific Windows Services. The available values are ‘BackupAgentMetadataManagementService,BackupAgentProcessingService, BackupAgent Management Service, BackupAgentADService’. These values are comma-separated lists which cannot contain a separating space.
Enabled:	Enables or disables a check

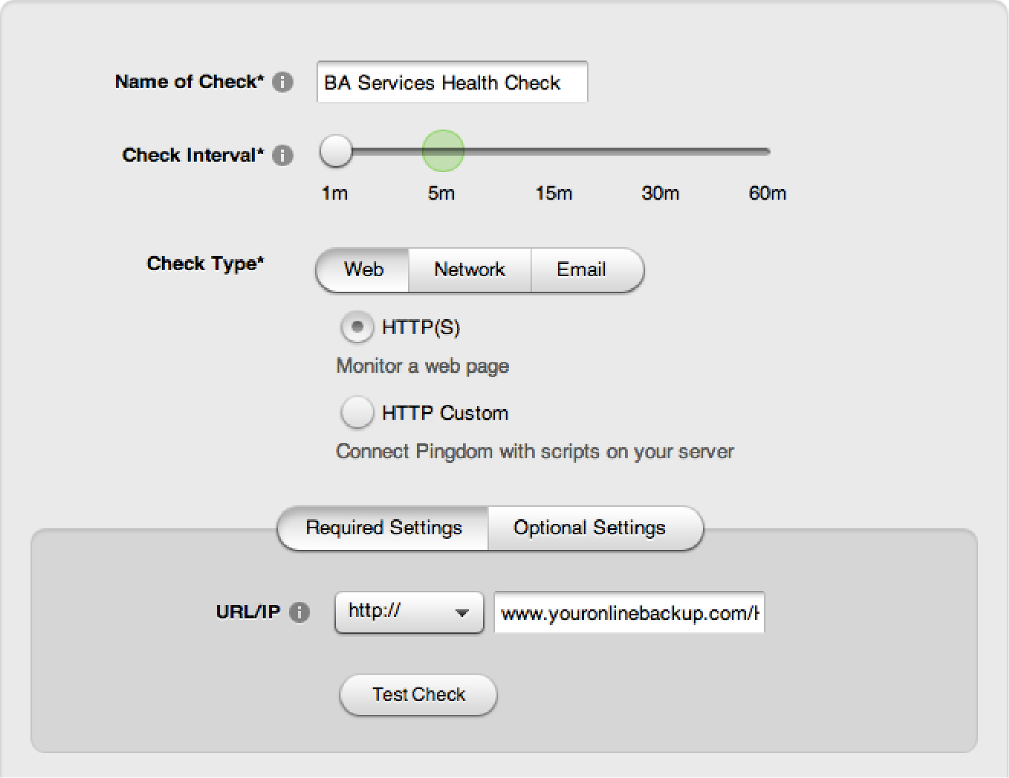
Note: the Clear tag in the xml is required to warrant that no previously configured tests remain in memory after removal.

3. Integrate checks in Pingdom

This chapter explains how to integrate checks in Pingdom. This assumes that an account in Pingdom is available which allows for adding a check.

3.1 Adding a check

Click on ‘Checks’ and ‘Add new checks’ in the Pingdom dashboard. You will now see the following:



Name of Check*: BA Services Health Check

Check Interval*: 1m 5m 15m 30m 60m

Check Type*: Web | Network | Email

● HTTP(S)
Monitor a web page

○ HTTP Custom
Connect Pingdom with scripts on your server

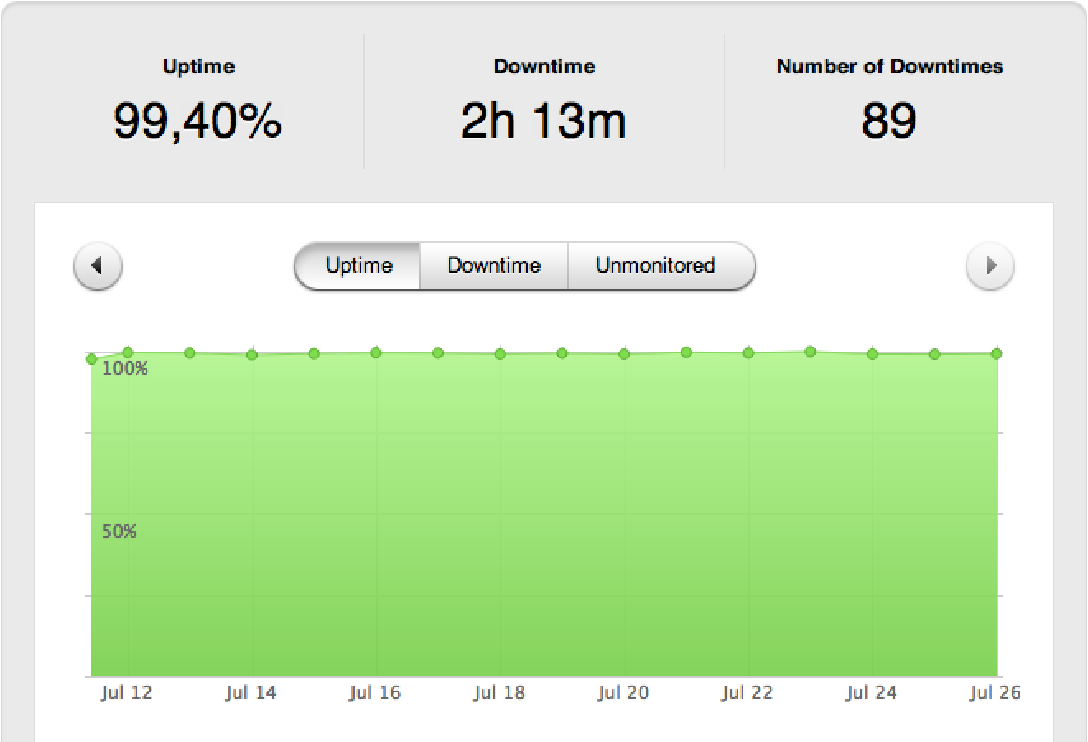
URL/IP: http:// www.youronlinebackup.com/h

Now give your check a friendly name and type in the URL of the health check you created, including the profile ID: https://{yourservice.com}/health/check.ashx?profileid=1

Some optional settings are available, which are not required for this check. The next step is to define who gets notified in case of system-down and how this person is alerted (email, SMS, twitter etc).

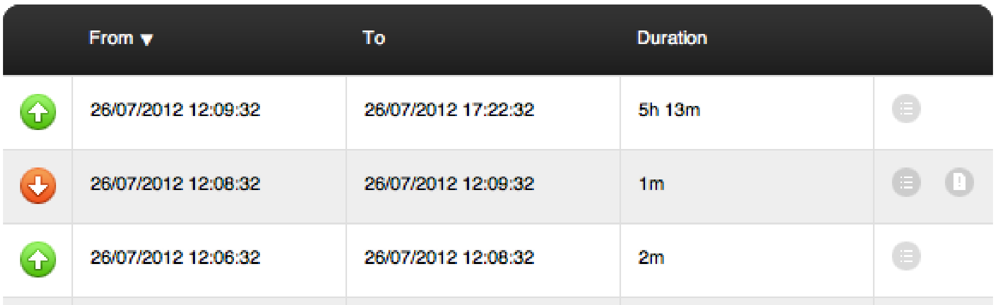
3.2 Monitoring checks

Once a check is added and started, Pingdom will collect monitoring data and will keep track of statistics regarding system uptime.



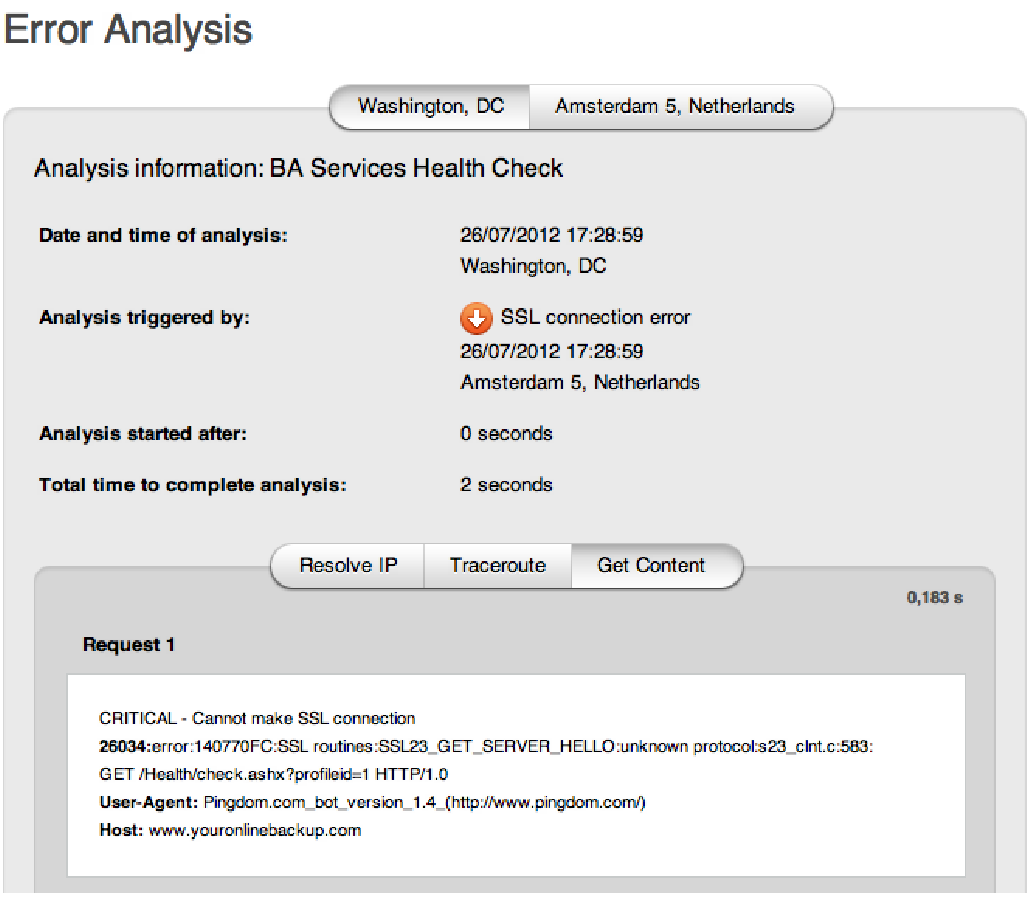
Uptime	Downtime	Number of Downtimes
99,40%	2h 13m	89

In case some downtime was detected, this is visible in the above graph and logs can be clicked to check the error message:



	From ▾	To	Duration	
⬆	26/07/2012 12:09:32	26/07/2012 17:22:32	5h 13m	≡
⬇	26/07/2012 12:08:32	26/07/2012 12:09:32	1m	≡ 🗋
⬆	26/07/2012 12:06:32	26/07/2012 12:08:32	2m	≡

The log shows the total amount of downtime. The system administrator can click on the page icon on the right to see log details:



Error Analysis

Analysis information: BA Services Health Check

Date and time of analysis: 26/07/2012 17:28:59
Washington, DC

Analysis triggered by: SSL connection error
26/07/2012 17:28:59
Amsterdam 5, Netherlands

Analysis started after: 0 seconds

Total time to complete analysis: 2 seconds

Request 1

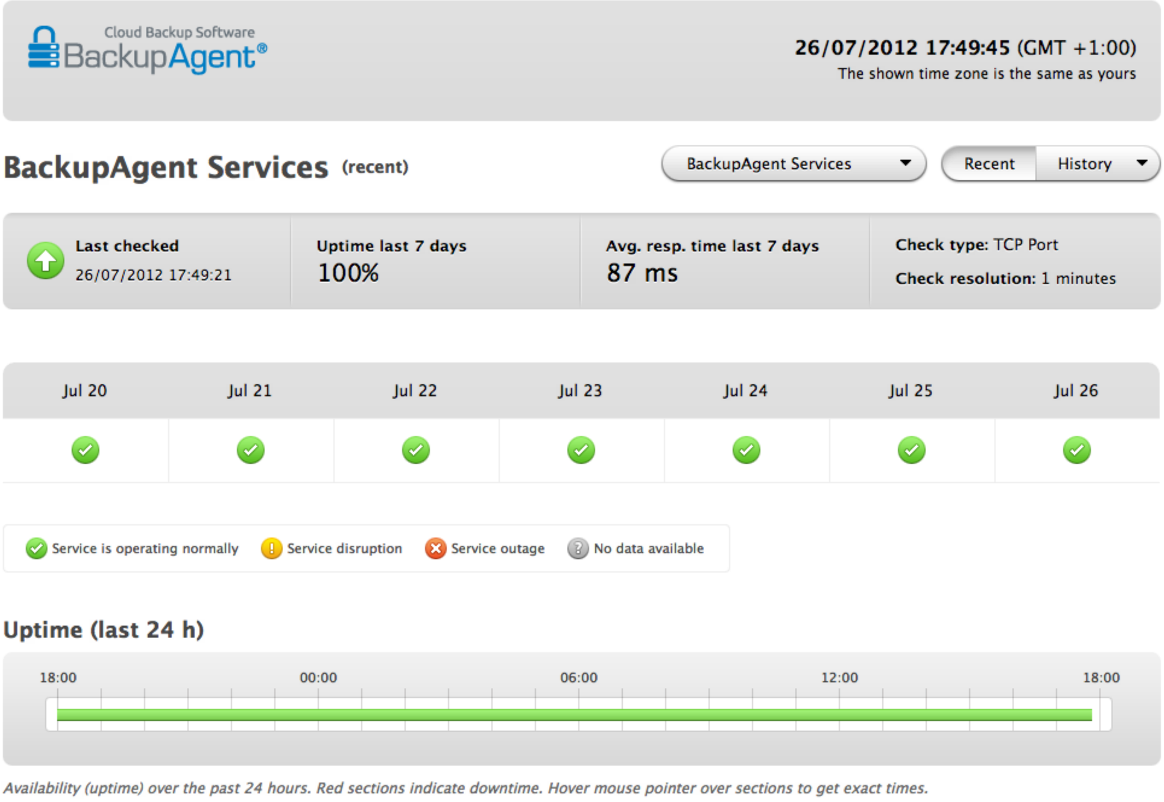
```
CRITICAL - Cannot make SSL connection
26034:error:140770FC:SSL routines:SSL23_GET_SERVER_HELLO:unknown protocol:s23_clnt.c:583:
GET /Health/check.ashx?profileid=1 HTTP/1.0
User-Agent: Pingdom.com_bot_version_1.4_(http://www.pingdom.com/)
Host: www.youronlinebackup.com
```

The above screenshot shows log details during downtime. Pingdom performs checks from several geographical locations and details can be read from those tests.

Note: Sometimes downtime error log details may contain 200 statuses. This is because only one of a set of checks or pings failed.

3.3 Informing customers and business partners

Pingdom allows for informing customers and business partners. Checks can be published by checking the adjacent box on the Public Status Page. Here's an example of such a page:



Cloud Backup Software BackupAgent®

26/07/2012 17:49:45 (GMT +1:00)
The shown time zone is the same as yours

BackupAgent Services (recent)

Last checked 26/07/2012 17:49:21	**Uptime last 7 days** 100%	**Avg. resp. time last 7 days** 87 ms	**Check type:** TCP Port **Check resolution:** 1 minutes

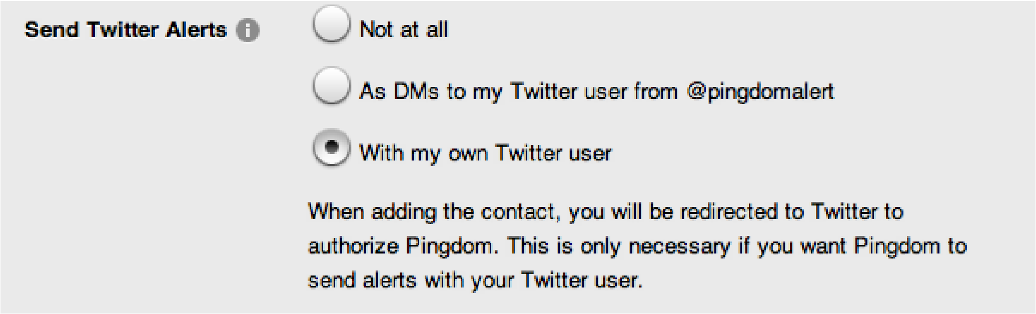
Jul 20	Jul 21	Jul 22	Jul 23	Jul 24	Jul 25	Jul 26
✓	✓	✓	✓	✓	✓	✓

✓ Service is operating normally ! Service disruption ✕ Service outage ? No data available

Uptime (last 24 h)

Availability (uptime) over the past 24 hours. Red sections indicate downtime. Hover mouse pointer over sections to get exact times.

Alternatively, customers can be informed using a Twitter account:



Send Twitter Alerts

○ Not at all

○ As DMs to my Twitter user from @pingdomalert

● With my own Twitter user

When adding the contact, you will be redirected to Twitter to authorize Pingdom. This is only necessary if you want Pingdom to send alerts with your Twitter user.