

## Introduction

The existing BlackFlag (BF) reports give a piecemeal measure of the various system parameters such as **Availability**, **Performance** and **Reliability**. While this is useful in determining, and possibly correcting, how a specific component is behaving, these reports do not give an end-to-end (e2e) view of a Service usage, i.e., these reports do not give a view of how a **Developer** sees parameters such as Availability, Performance and Reliability for the service usage.

Hence, any information providing an e2e view, and possibly identifying the component(s) causing service degradation, would add a much needed dimension to the current reporting.

The following are envisaged:

1. New Reports
  - a. Service Report
  - b. Front/Back Office Tool Report

These reports provide the following e2e parameters:

**Availability** – Provides a percentage of how available a service/tool is, based on measurements taken over a defined periodicity. Thus, the percentage will reflect the ‘average’ availability over this periodicity. A periodicity of DAILY is being planned currently.

Refer [Figure 2: Detailed Monitoring Report for Service Access from Simulated Browsers Running in Various Clouds Distributed geographically] for an example.

**Performance** – Provides how well a service/tool is operating, based on measurements taken over a defined periodicity. Currently, “Latency”, measured in seconds, will be construed as a measure of performance by using BrowserMob (a tool used to measure service parameters). Though this tool can measure “Transactions Per Second (TPS)” too, but measuring TPS will need the tool to run a Load Test, hence, load the “Production” system. This is not recommended for the Production system, where “active” (developer) customers are using the system. Hence, an e2e TPS/service should only be derived from the Apigee API Gateway – it may not be possible to scope in the e2e TPS/service in the BF 2.0 launch timeframe because of time constraints.

Currently, the latency will “include” the time taken for the OAuth dance.

Refer [Figure 2: Detailed Monitoring Report for Service Access from Simulated Browsers Running in Various Clouds Distributed geographically] for an example.

**Reliability** – Provides whether a service is functioning at all. The reliability will be measured using **MTTR** (Mean Time To Repair), measured in minutes. MTTR is the time it takes, after a service (in this case) goes down, before it comes back up again. A service will be tested at a defined periodicity ( $f_2$ ), say every 15

minutes. Thus, the 'minimum' MTTR that can be detected by the tool (BrowserMob) is  $f_2$ , where actually the MTTR may be lesser. It is not recommended to decrease the value of  $f_2$ , because that will place additional load on the system. The MTTR will be averaged over a defined periodicity ( $f_1$ ). The periodicity,  $f_1$ , is being currently planned at DAILY.

There are 2 ways to measure the MTTR using the BrowserMob tool, at the moment:

1. Using the BrowserMob paired Failure-Recovery Email Alerts (refer [Figure 4] & [Figure 5])
2. Using the BrowserMob Service Performance Graphs (refer [Figure 3])









'2' is a better (more reliable) and easier method to measure MTTR, hence, that will be used to measure this parameter.

Refer [Figure 3: Service Performance over a Period of Time (the big dark red dots indicate errors)] for an example.

IT MUST BE NOTED THAT THE OUTPUT OF THE **BROWSERMOB** TOOL WILL BE ANALYZED, AND THEN TRANSFERRED TO THE SERVICE/TOOL REPORT.

## Monitoring

Last 24 hours

Name	Checks	Errors	Response	Freq	Location		
 BF R2.0 Production SMS BF R2.0 Production SMS	16	3	793 ms	15 mins	multiple	<a href="#">Edit</a>	<a href="#">Delete</a>
 BF R2.0 Production MMS BF R2.0 Production MMS	16	3	1.18 secs	15 mins	multiple	<a href="#">Edit</a>	<a href="#">Delete</a>
 BF R2.0 Production WAP Push BF R2.0 Production WAP Push	14	0	787 ms	15 mins	multiple	<a href="#">Edit</a>	<a href="#">Delete</a>
 BF R2.0 Production Location BF R2.0 Production Location	N/A	N/A	N/A	15 mins	multiple	<a href="#">Edit</a>	<a href="#">Delete</a>
 BF R2.0 Production Device Info BF R2.0 Production Device Info	N/A	N/A	N/A	15 mins	multiple	<a href="#">Edit</a>	<a href="#">Delete</a>
 BF R2.0 Production Payment - New Transaction BF R2.0 Production Payment - New Transaction	N/A	N/A	N/A	15 mins	multiple	<a href="#">Edit</a>	<a href="#">Delete</a>
 BF R2.0 Production Payment - Refund Transaction BF R2.0 Production Payment - Refund Transaction	N/A	N/A	N/A	15 mins	multiple	<a href="#">Edit</a>	<a href="#">Delete</a>
 BF R2.0 Production Notary BF R2.0 Production Notary	N/A	N/A	N/A	15 mins	multiple	<a href="#">Edit</a>	<a href="#">Delete</a>

[New Monitoring Job](#)

Figure 1: Defined Monitoring Jobs (3 out of 8 are running) - Shows Last 24 Hours Snapshot

# Monitoring Report

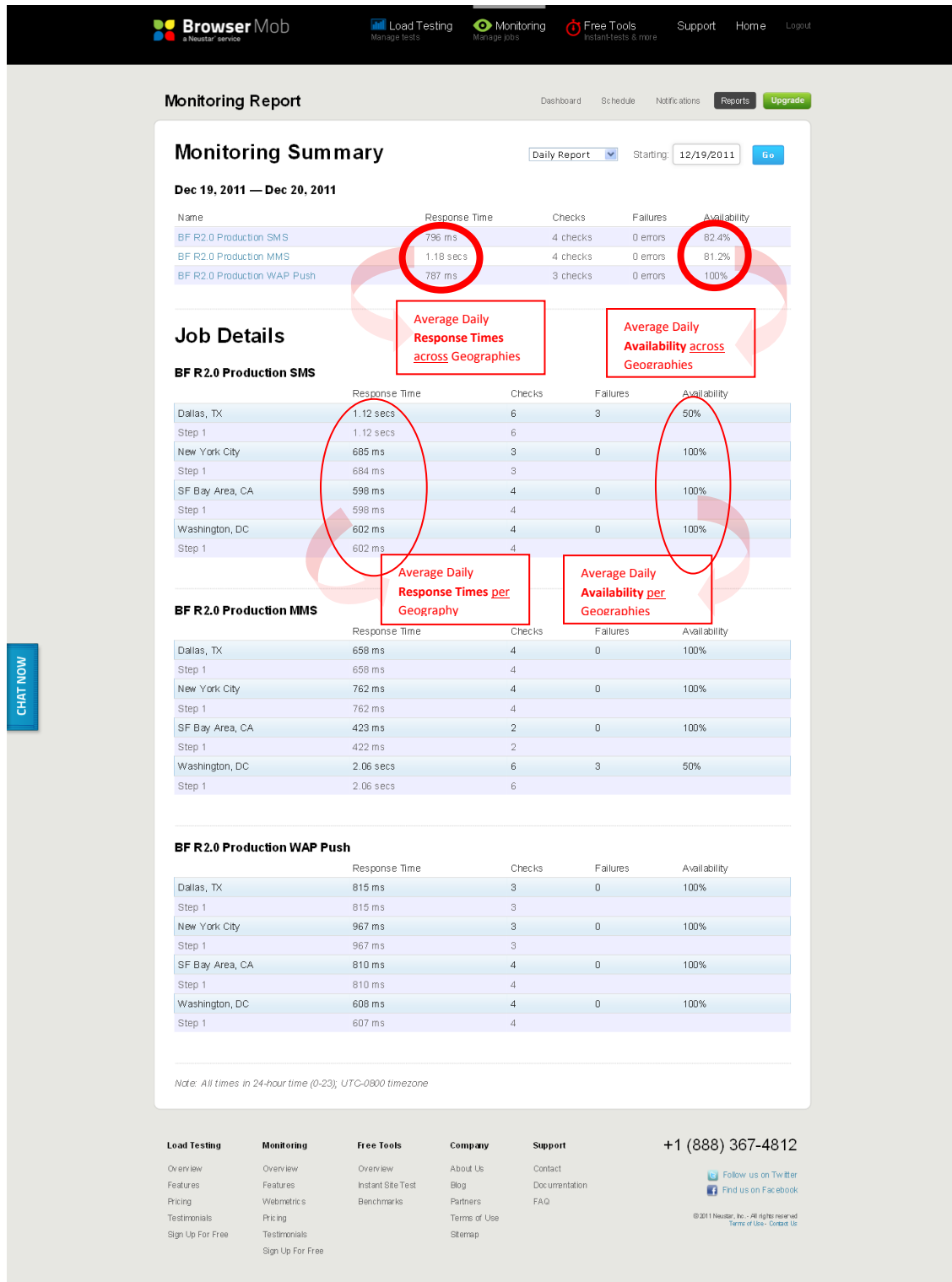


Figure 2: Detailed Monitoring Report for Service Access from Simulated Browsers Running in Various Clouds Distributed geographically

## Service Performance over a Period of Time

### BF R2.0 Production SMS

Frequency: 15 mins      Location(s): Dallas, TX | Washington, DC | New York City | SF Bay Area, CA

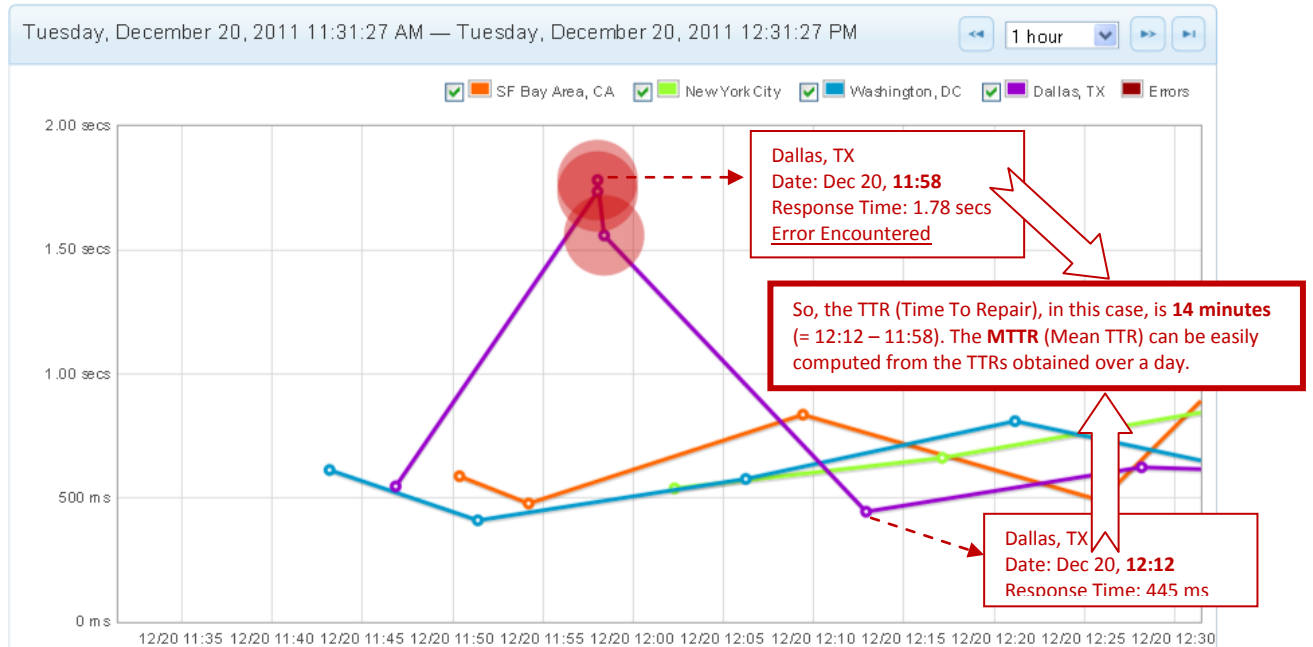


Figure 3: Service Performance over a Period of Time (the big dark red dots indicate errors)

## Email Alerts

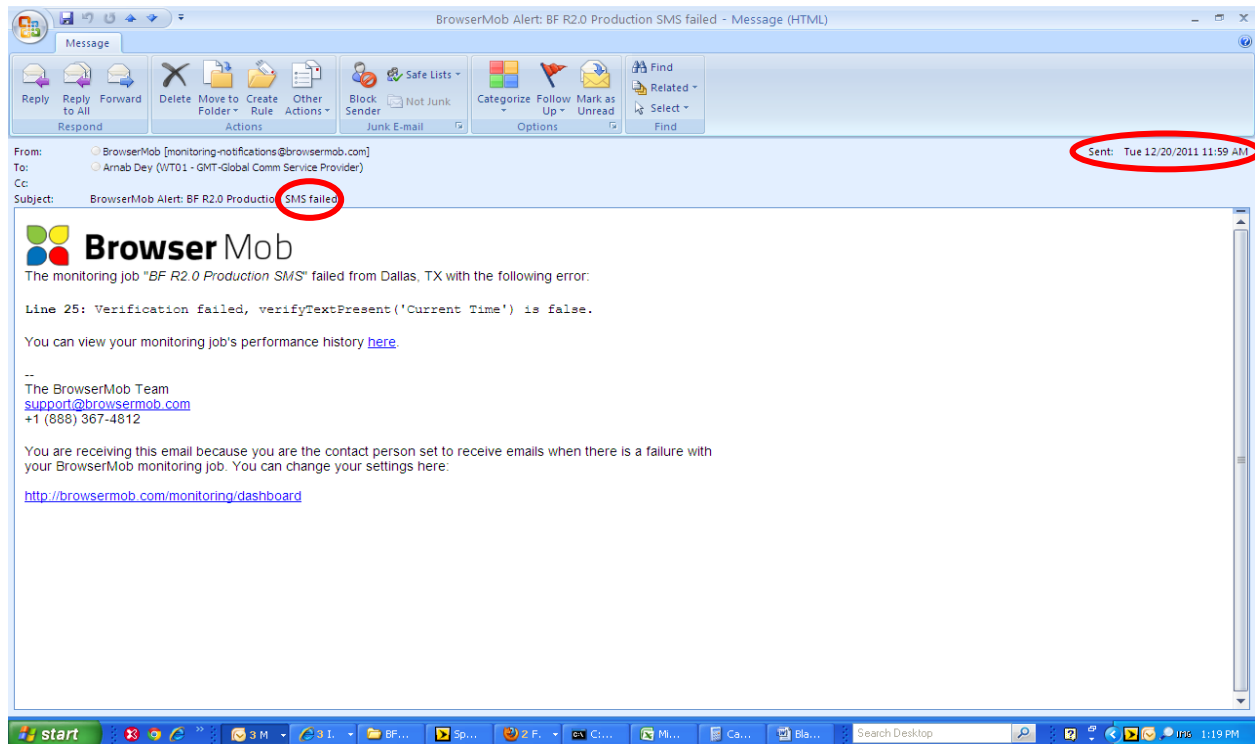


Figure 4: SMS 'Failure'

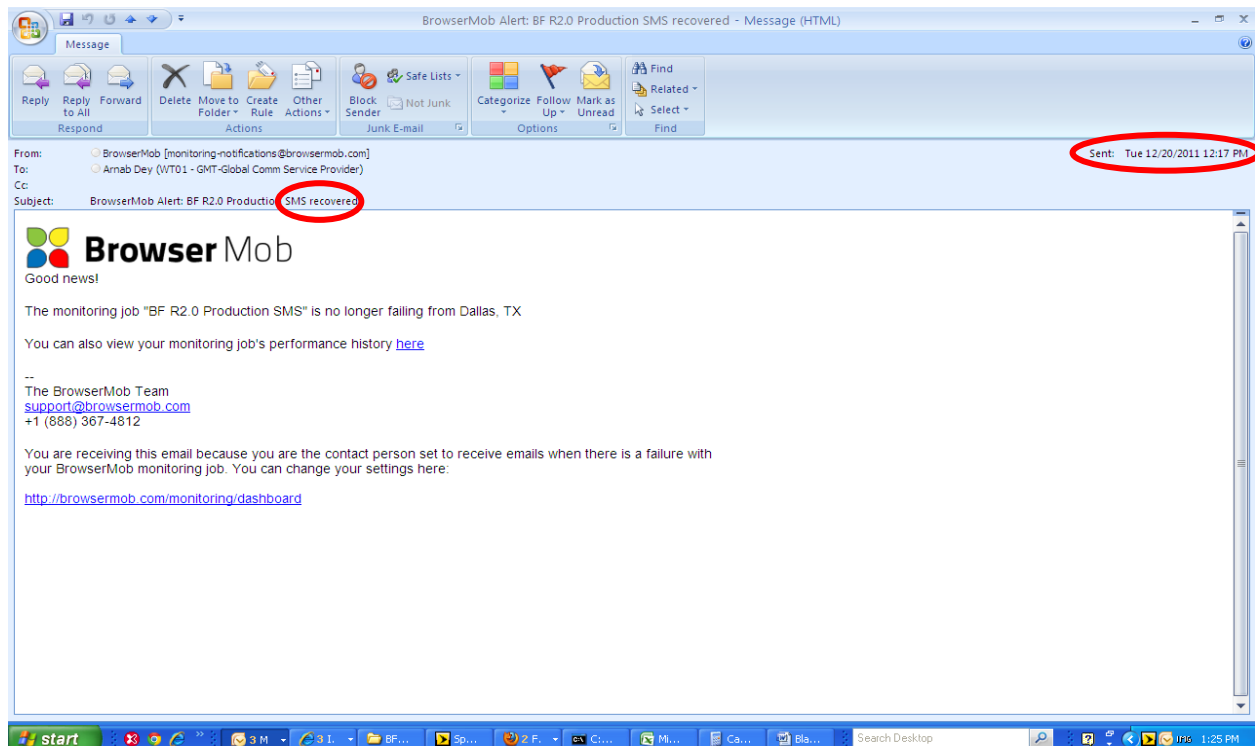


Figure 5: SMS 'Recovery'