HOW TO BUILD A BUSINESS SERVICE MANAGEMENT BRIDGE BETWEEN IT AND BUSINESS

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Content

Executive Summary

Business service management (BSM) is about bridging the gap between IT operations and the business. In essence creating an understanding the impact an IT related problem will have on the business. This solution brief details how you can implement BSM logic and generate rules sets to increase the understanding between IT and business.

Background

The scope of IT monitoring has expanded from the measurement of individual IT service and device metrics to a more comprehensive approach that includes BSM (Business service management). BSM connects the IT and Business perspectives, thus enabling a holistic approach to IT monitoring. As a techie it is possible to run into the conclusion that it is only for business people. This paper will detail it is not the case.

Webshop example

This solution brief details an example of a company running a webshop.

Webshop server layers.
* 5 frontend webservers
* 2 application servers
* 3 database servers

Management want to monitor how the webshop is doing. Management do not want to know if a redundant part is down, instead management want to have an overview of the webshop status.

For this webshop the following BSM rules are defined:

Webserver rules
* If 3 or more webserver works the webservice is OK
* If 2 webservers works the webservice is WARNING
* If 1 webserver or less is working the webservice is CRITICAL

Application server rules
* If 2 or more application servers works the application layer is OK
* If 1 applications server works the application layer is WARNING
* If zero application servers works the application layer is CRITICAL

Database server rules
* If 2 or more database server works the database layer is OK
* if 1 database server works the database layer is WARNING
* If no database servers works the database layer is CRITICAL

The webserver layer, application layer and database layer should be viewed separately
The total webshop status has the lowest status value of webserver layer, application layer and database layer.

Personlized views

The Webmaster wants to monitor the individual webservers and the total web layer. The total web layer is important so that should be sent 24x7 to his/hers phone and email. Individual webservers should only be mailed. He/she will also want to get SLA- and availability reports on the web layer.

The Application server manager have similar demands. He wants to monitor the individual application servers, the total app layer and SLA- and avail reports. The total application layer is important so that should be sent 24x7 to his phone and email, individual application servers should only be mailed.

The DBA, he wants to monitor each individual database server, the total DB Server layer and wants SLA- and availability reports on DB layer. The total DB layer is important so that should be sent 24x7 to his phone and email, individual DB servers should only be mailed.

Implementation

The implementation is straightforward. Create the top layer webshop and the layers below. Each layer can be associated with services within op5 Monitor to get notifications and create reports. To see how the top layers are implemented refer to fig 1.

	Worst state			
▲ ⚠ Webshop	Worst state		2014-02-10 13:41:48	1m ago
▶ ✅ DB-Layer	At least (2, 1, num)		2014-02-10 13:41:48	1m ago
▶ ⚠ App-Layer	At least (2, 0, num)		2014-02-10 13:41:48	1m ago
▶ ✅ Web-Layer	At least (3, 2, num)		2014-02-10 13:41:48	1m ago

Fig. 1:Top layer Webshop using BSM

	Worst state				
▲ ⚠ Webshop	Worst state		2014-02-10 14:56:46	Less than a minute ago	The worst state
▲ ✅ DB-Layer	At least (2, 1, num)		2014-02-10 14:56:46	7m ago	Require 2 OK(s CRITICAL(s), 0
✅ DB-server3	Constant (OK)		2014-02-10 14:56:46	Less than a minute ago	Element is alwa
✅ DB-server2	Constant (OK)		2014-02-10 14:56:46	Less than a minute ago	Element is alwa
❌ DB-server1	Random		2014-02-10 14:56:46	Less than a minute ago	This is the ranc
▲ ✅ App-Layer	At least (50, 49, %)		2014-02-10 14:56:46	2m ago	Require 50% C WARNING(s), C
⚠ Appserver1	Random		2014-02-10 14:56:46	Less than a minute ago	This is the ranc
✅ Appserver2	Random		2014-02-10 14:56:46	Less than a minute ago	This is the ranc
▲ ⚠ Web-Layer	At least (3, 2, num)		2014-02-10 14:56:46	2m ago	Require 3 OK(s CRITICAL(s), 0
✅ Web-Server4	Constant (OK)		2014-02-10 14:56:46	Less than a minute ago	Element is alwa
⚠ Web-Server5	Random		2014-02-10 14:56:46	Less than a minute ago	This is the ranc
❌ Web-Server2	Random		2014-02-10 14:56:46	Less than a minute ago	This is the ranc

Fig: 2: Full implementation of webshop using BSM

As you can see in the full implementation view of the webshop, each layer has at least one problem, but only the Weblayer has so much problems that the rule kicks in and set the whole layer to a non-ok state.

Each layer can be associated with a service which gives the possibility for the tool to suppress notifications that are not business critical. According to the specification in this example the SMS notifications should only be sent out in the top three layers. Weblayer to webmaster, DB layer to the DBA and so on. The CTO could get messages on the top Webshop layer.

The individual servers problems can be alerted via other channels so the operators and admins do not need to respond on individual problems during weekends and nights.

Reports

As op5 Monitor collects a lot of data, it is possible to use it afterwards. Two popular reports are availability report and SLA report. Using thes reports in combination with BSM is extremely valuable. Mainly because with BSM it is possible to create an understanding of the value of IT operations and each individual can increase their efficiency.

These reports can be used by several individuals in an organization. For IT operations it is interesting to understand which server or servers in a cluster are causing the problems and for business oriented people, which part of the organization needs more resources and possible investments.

In the figure below you can see an availability report has been created where it is possible to analyze the root cause by using the BSM tree.

Timestamp	State	BSM object	Reason
2014-02-10 13:56:37	⚠	Webshop (saved as service on host BSM-Container)	**The worst state is WARNING** ↳ ⚠ App-Layer: Require 2 OK(s), got: 1 OK(s), 1 WARNING(s), 0 CRITICAL(s), 0 UNKNOWN(s) 　↳ ⚠ Appserver2 ↳ ✅ DB-Layer: Require 2 OK(s), got: 2 OK(s), 0 WARNING(s), 1 CRITICAL(s), 0 UNKNOWN(s) 　↳ ❌ DB-server1 ↳ ✅ Web-Layer: Require 3 OK(s), got: 4 OK(s), 0 WARNING(s), 1 CRITICAL(s), 0 UNKNOWN(s) 　↳ ❌ Web-Server1
2014-02-10 13:56:37	⚠	Webshop (saved as service on host BSM-Container)	**The worst state is WARNING** ↳ ⚠ App-Layer: Require 2 OK(s), got: 1 OK(s), 1 WARNING(s), 0 CRITICAL(s), 0 UNKNOWN(s) 　↳ ⚠ Appserver2 ↳ ✅ DB-Layer: Require 2 OK(s), got: 2 OK(s), 0 WARNING(s), 1 CRITICAL(s), 0 UNKNOWN(s) 　↳ ❌ DB-server1 ↳ ✅ Web-Layer: Require 3 OK(s), got: 3 OK(s), 0 WARNING(s), 2 CRITICAL(s), 0 UNKNOWN(s) 　↳ ❌ Web-Server1 　↳ ❌ Web-Server2
2014-02-10 14:41:00	✅	Webshop (saved as service on host BSM-Container)	All criteria fulfilled for an OK state
2014-02-10 14:46:00	⚠	Webshop (saved as service on host BSM-Container)	**The worst state is WARNING** ↳ ⚠ DB-Layer: Require 2 OK(s), got: 1 OK(s), 1 WARNING(s), 1 CRITICAL(s), 0 UNKNOWN(s) 　↳ ❌ DB-server2 　↳ ⚠ DB-server1 ↳ ✅ App-Layer: Require 50% OK(s), got: 50% OK(s), 0% WARNING(s), 50% CRITICAL(s), 0% UNKNOWN(s) 　↳ ❌ Appserver2 ↳ ✅ Web-Layer: Require 3 OK(s), got: 4 OK(s), 1 WARNING(s), 0 CRITICAL(s), 0 UNKNOWN(s) 　↳ ⚠ Web-Server1

Fig. 3: Root cause analysis using BSM and availability report.

Conclusion

op5 BSM is a powerful tool that can be used by several parts in an organisation. It is a tool that will increase the value of an op5 Monitor installation for several reasons. Depending on the roles in the organisation it is possible for BSM to provide the relevant information to correct people at the right time - meaning you are bridging the gap between IT operations and business.

Key features:

• Display a business orientated overview
• Reduction of downtime by alignment of key business services with IT priorities.
• Decreased costs through proactive IT management.
• Increased mutual understanding of key priorities between IT and Business teams
• IT gains credibility through ability to show results in business terms.

Get in touch to learn more about Business Service Management

ABOUT OP5

op5 is a developer of Server Monitoring solutions for hybrid IT environments. The solution comes in a fully supported package called op5 Monitor. The architecture supports scalability from the small and business critical IT to the very large IT with thousands of distributed hardware, applications and services. op5 has customers all over the world and its headquarters in Stockholm, Sweden.

For more information please visit www.op5.com or contact our local Professional Partners.

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