



Lack of
Productivity
tools

Need Better
User Access
Policy

Lack of
Governance

Wish to support
without
BizTalk experts

Poor or No
Monitoring

BizTalk360

**What's the business value
of using BizTalk360?**

How can BizTalk360 help improve the operational efficiency in your Microsoft BizTalk Environments and increase your return on investment in the platform?

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The story behind the birth of BizTalk360

BizTalk360 is the grand child of Saravana Kumar, a BizTalk Server veteran MVP since 2007. He was working over a decade with medium to large enterprise customers using BizTalk server. Over and over again he has seen the same problem creeping up with each customer when it comes to administering, operating, and monitoring production BizTalk environments. The default tooling that comes out of box was lacking some of the enterprise qualities, when it comes to running your day-to-day operations in a production environment.

Some of the common challenges include: There is no web based management access, authorization is very poor when it comes to management, the tools demanded high level of BizTalk knowledge, lot of dependency on external tools for monitoring, you need to have access to a bunch of external tools to support your applications, lack to governance, required RDP access into physical production servers etc.

In February 2010, during the Global MVP summit in Seattle, over a cup of coffee with fellow MVP's Saravana was discussing the issue and they decided to build an open-source project to solve all these gaps. Like most of the open source projects, the drive was not there and everyone went in their own direction. Saravana Kumar picked up the task, and after 12 months, in the next MVP summit he demonstrated the first version of the product to both BizTalk product group and to fellow MVPs. The feedback was very positive and everyone thought it solves some of the problems they have day-in and day-out.

The version 1.0 of the product went live in August 2011. Since then BizTalk360 have grown gradually into a professional company with strong 8 member's team based in London (including former Microsoft employee). The product is constantly being enhanced with a new version every 4-5 months bringing 3-4 core capabilities. At the time of writing this article the current product version is 7.0 and there are over 100 customers across 20 countries using the product in 400+ environments. The product is built purely on customer/community feedback understanding the pain points. Every feature that has been added to the product is carefully thought through, making sure BizTalk360 doesn't get bloated with unnecessary functionalities.

Your current challenges

BizTalk Server is the product that's been successfully used in the market for over a decade. Organisations have adapted various methodologies when it comes to operations, support, deployment etc. They may or may not realise some of the challenges that lies in the way they follow their methodologies, and may not realise how much money has been wasted directly or indirectly. Here are the top 5 challenges/issues we have seen the organisations are facing in our 12+ years of experience dealing with companies using Microsoft BizTalk server from our consulting background.



1. Ability to support your BizTalk environments without skilled BizTalk people

This is one of the biggest challenge at the moment. If you look at the way organisations support their BizTalk environments, they will always require skilled BizTalk professionals to support the BizTalk applications. This is mainly due to the lack of adequate tooling in BizTalk Server and it's nearly impossible to bring someone without any BizTalk knowledge to come and support your applications. The BizTalk admin console does everything right from development, deployment, configuration

and support/operations. By the time it comes to support and operations the tool is way too powerful to give it to non-BizTalk people.

2. Operational Governance/Auditing - Understanding "who did what in the environment"

One of the other challenge at the moment is operational governance and auditing. Currently the operational/support activities performed by your BizTalk support team are not traceable. Example: Someone can start a BizTalk Host Instance, stop

a Send Port, unenlist an Orchestration, or even terminate an important suspended message instance. These kind of gap in traceability could be potentially dangerous, you basically perform your day-to-day operations based on trust.

3. Advanced authorization – Security at one place

When it comes to authorization in BizTalk server from administration and operations point of view (out of the box) you are restricted to two NT groups "BizTalk Server Administrators" and "BizTalk Server Operators" with hard coded rules like "cannot view message properties and message bodies". Due to this hard coded restrictions majority of the time every single support person in the organisation will be part of your "BizTalk administrators group" without any security restrictions. In addition your support people will have RDP root access to the production servers and also SQL server access to BizTalk system databases.

4. Ability to share your BizTalk Environment between business units

The BizTalk Administration console is not designed for shared usage of environments. Once somebody has access to BizTalk Admin console and connects to an environment, they will have access to pretty much everything in the environment (all the applications, hosts, host instances, message boxes etc.). This makes it complex to safely share your environment between different business units. Once a critical application is deployed into the environments, organisations resist to deploy anything else into the environment. Even though there may be enough spare capacity in the environment.

5. Keep your environment healthy by proactive monitoring

BizTalk server out of the box doesn't come with any inbuilt monitoring capabilities. When it comes to monitoring you need to invest in external tools like System Centre Operations Manager (SCOM), HP Operations Manager, and IBM Tivoli are something like this. Configuring these general purpose monitoring tools are complicated and it takes weeks and months to configure it. It's also challenging to find the right resources who are capable of understanding BizTalk and one of these monitoring tools and come with a good monitoring solution.

In addition to all these hard-core problems there is also one fundamental issue, there is no web based management access to your BizTalk environments. The current tool that comes out of the box BizTalk Administration console is a traditional MMC based snap-in.

How BizTalk360 solves the above challenges?

BizTalk360 is built keeping one thing in mind **“Once your BizTalk applications goes to production, how best we can solve the operational challenges.”**. Our focus is mainly on solving the day-to-day challenges you face on administering, monitoring, operating and supporting your BizTalk environments once your applications are deployed. We think BizTalk Server admin console is too powerful when you look at it

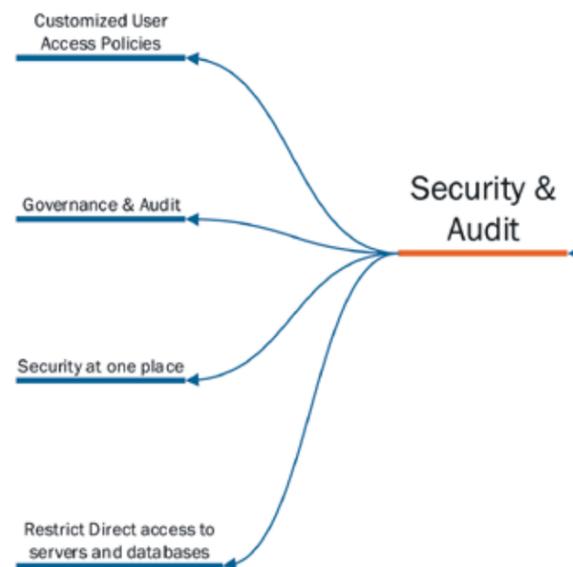
from operations and support perspective. BizTalk360 solves the current challenges by providing a single powerful tool focused on operations and monitoring. At very high level BizTalk360 is focused on solving 4 core problem areas.



Security & Audit

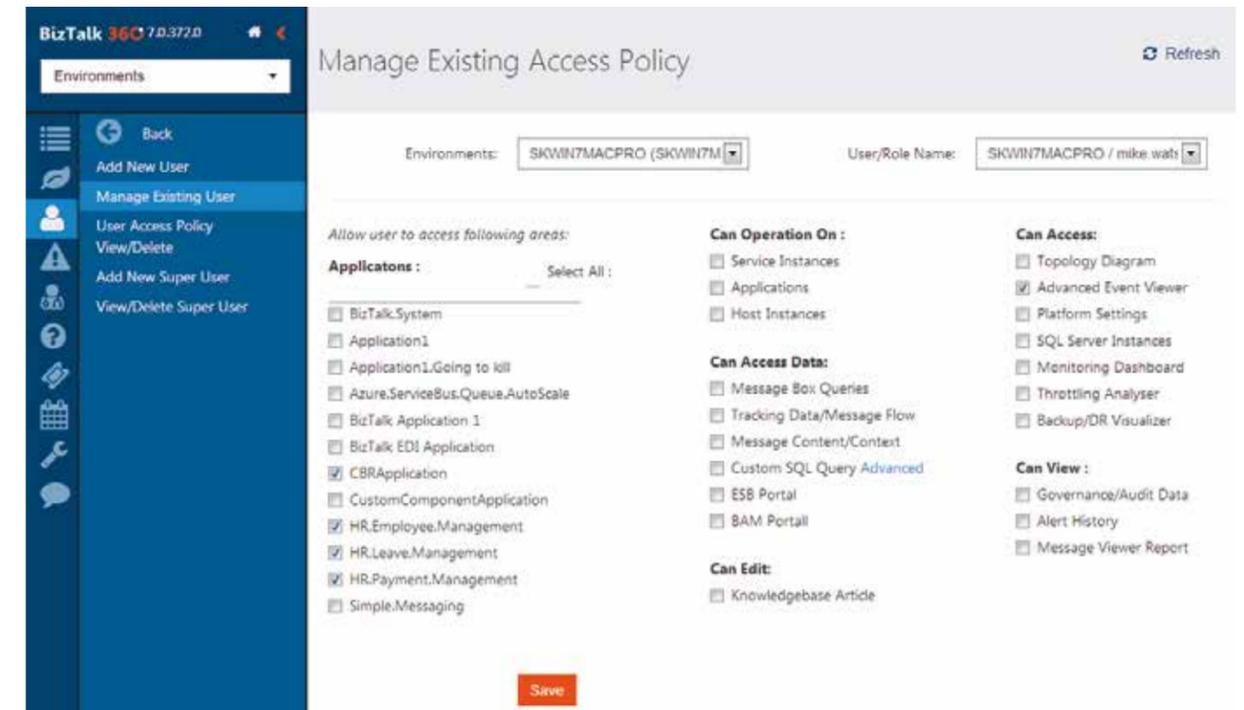
BizTalk360 solves 4 core aspects of security in your BizTalk environments, as shown in the below mind map diagram it takes care of

- Customized User Access Policy
- Operational Governance and Auditing
- Security at one single place
- Remove RDP access to servers and direct database(s) access



Customized User Access Policy

BizTalk360 removes the hard coded dependency of BizTalk operators group and BizTalk administrators group and allows you to define your own user access policy either on an individual windows user level or at NT group level (you can define your own group ex: “BPM Production Support”). As you can see from the above screen shot it comes with extensive option helping to set security at one single place (ex: BAM Portal, ESB Portal, SQL Instances etc.).



The advanced user access policy also solves some of the common operational problems like

- Providing read-only access to set of users or specific NT Group
- The users don't need to belong to any of the BizTalk groups in each environment
- Providing access to only specific applications in the environment etc.

Operations Governance and Auditing

In a core middleware platform like BizTalk Server it's vital to keep an eye on "who is doing what in your environment". For example if one of your support person starts or stops a host instance or terminates or resumes a service instance, unenlists an orchestration or send port. All these activities will have some serious impact on your business process and often time in scenarios like this teams gets into blame game on each other. BizTalk360 solves this problem by auditing all the support operations in the BizTalk environment, depending on the company audit policy duration, all the audit data is stored in a SQL server database, reports can be easily created.

Governance/Audit Refresh

Note: Only recent 10 records are displayed here. For more click on the respective nodes on LHS tree view under Governance/Audit

HOST INSTANCE ACTIVITIES
SERVICE INSTANCE ACTIVITIES
APPLICATION ACTIVITIES

Details

Host Name	Server Name	Operation	Domain Name	User Name	Timestamp
⚙️ BTS_IN_PROCESS	SKWIN7MACPRO	■ Stop	SKWIN7MACPRO	SaravanaKumar	11/01/2013 2:0...
⚙️ BizTalkServerApplica...	SKWIN7MACPRO	■ Stop	SKWIN7MACPRO	SaravanaKumar	11/01/2013 2:0...
⚙️ BizTalkServerApplica...	SKWIN7MACPRO	▶ Start	SKWIN7MACPRO	SaravanaKumar	10/28/2013 2:4...
⚙️ BizTalkServerApplica...	SKWIN7MACPRO	■ Stop	SKWIN7MACPRO	SaravanaKumar	10/28/2013 1:5...
⚙️ BTS IN PROCESS	SKWIN7MACPRO	▶ Start	SKWIN7MACPRO	SaravanaKumar	10/28/2013 1:5...

Security at one single place

If you look at the way your support team analyses and resolves the issues. They will be using at least 5 to 8 different tools for their day-to-day operations. Some of these tools include

- BizTalk Administration Console
- SQL Management Studio
- BAM Portal
- ESB Portal
- Message Box Viewer
- Event viewers across multiple servers
- Performance Counters
- Monitoring Consoles (SCOM, HPOM etc.)

As you can imagine there are couple of major

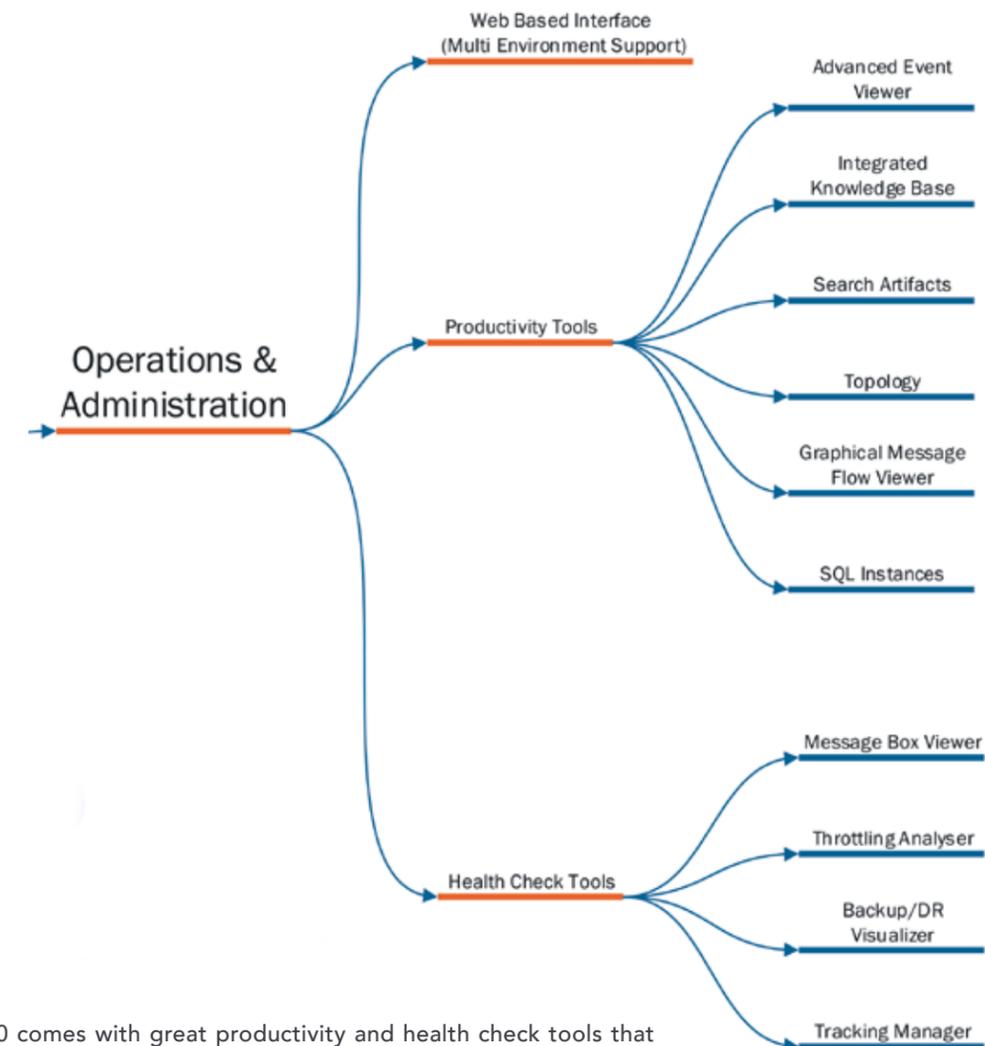
problems with this approach. The first one is setting and managing security at various places and second major problem is bringing someone new to your support team. It will take weeks and months for them to understand which tool to use under which scenario. BizTalk360 solves this challenge by bringing all these various capabilities into a single application with advanced security mechanism.

Remove RDP into servers and direct database accesses

BizTalk360 comes with all the tools required, example "Advanced Event Viewer", "Custom SQL Queries", "SQL Instances details", "Backup/DR Visualizer" etc. to eliminate any direct remote desktop access (RDP) into live BizTalk servers and it also makes DBA's in your organisation happy by eliminating direct SQL server access to your BizTalk support people.

Operations and Administration

One of the core strengths of BizTalk360 is, it's a single tool to administer, operate and monitor your BizTalk server environments. It's a web based application with the ability to manage multiple environments from a single installation. Customers typically configure one installation for production/DR and another installation for all their non-production environments. This setup will allow to have only 2 URL's across the organisation to access all your BizTalk environments. The following mind tree shows the core capabilities when it comes to operations and administration.

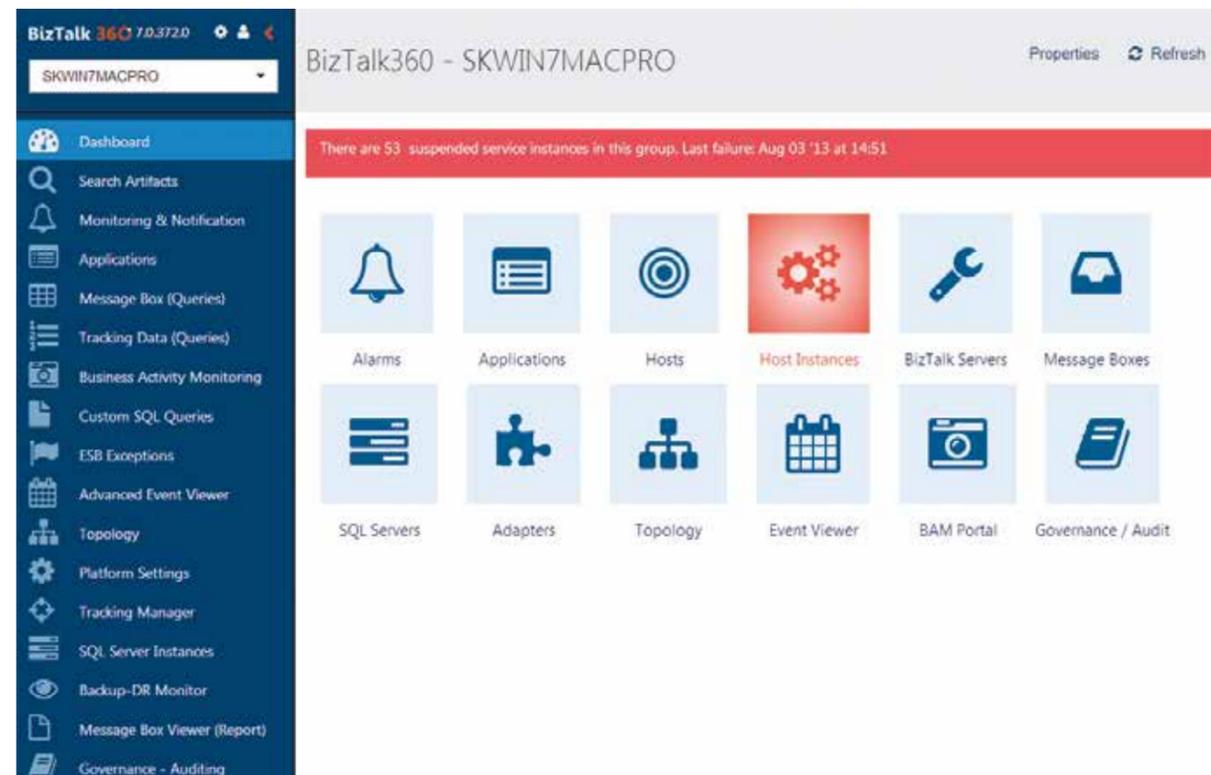


BizTalk360 comes with great productivity and health check tools that will make life of your support people easy. BizTalk360 leverages all the potential of Microsoft BizTalk server by providing powerful tools that helps in diagnosing/troubleshooting problems easily both at application level as well as infrastructure level. Let's take a brief look at each one of those tools.

Productivity Tools

One of our key principles with BizTalk360 is to provide support people with appropriate tools that will increase their productivity as well as reduce the amount of time it takes to diagnose and solve problems. Here are the key productivity tools that ships along with BizTalk360

- Advanced Event Viewer
- Integrated Knowledge base
- Search Artifacts
- Dynamic Topology Diagram
- Graphical Message Flow Viewer
- Access to SQL Instances



Advanced Event Viewer

Event viewer is one core tool in the arsenal of a BizTalk support person. Whenever there is problem in your environment, the support person will take a look at BizTalk admin console first and their next immediate point will be event viewers across multiple BizTalk servers. BizTalk Server out of the box leverages just the standard windows event viewer for this purpose. The problem with this is, when you have multiple BizTalk servers then the support person needs to check event viewers across multiple servers,

try to correlate the events manually to diagnose the problem. This is time consuming operation and also possess security risk, because they typically will have RDP access to the servers to view the event viewer. BizTalk360 eliminates this challenge by providing a specially designed Advanced Event Viewer, which collects all the events and make it available from the web UI (without accessing the server directly). This makes it faster and a secure way to diagnose the problems.

Integrated Knowledgebase

The objective of BizTalk360 is to provide a single operational tool to support and monitor your BizTalk server environments. In this model the support person will see all the errors in a single place. The errors could be suspended instances in the environments, error events in the windows event log, or even error codes from ESB exception portal. Lot of times the errors may not be related to a bug in the source code, but it will be operational errors. Example "Customer sending the message with some junk character in email field". In instances like this, typically the support team will maintain a troubleshooting document either in Wiki, SharePoint etc. but when the real problem happens its bit unlikely someone will start digging into the document for solutions. BizTalk360 solves this challenge by providing an integrated knowledge base. Whenever an error event occurs, you can associate a knowledge base with that error code and when that same error happens again, BizTalk360 will show the solution for the problem right in the UI.

Search Artifacts

This is one of the unique capabilities of BizTalk360 which allows you to search for any design time artifacts in your BizTalk environment. The design time artifacts includes

- Applications
- Orchestrations
- Send Ports
- Receive Ports
- Receive Locations
- Maps
- Schemas
- Pipelines

When you have a large number of artifacts in your environment then it becomes time consuming to look for any artifacts. Example: You may have 500 orchestrations deployed in your environment and wanted to filter out only orchestrations that contains "EDI" in their name. BizTalk360 comes with full wildcard search and status filter capabilities to

address these kind of scenarios. Example: You can search for "Orchestrations that contains EDI in the name with the status=stopped"

Dynamic Topology Diagram

This is something trivial but enormously useful functionality. Since BizTalk360 understands the full infrastructure of your BizTalk environment it plots a dynamic network topology diagram. In a multi-server environment it will show a graphical network diagram with all your BizTalk Server and SQL servers. This eliminates people from maintaining some Visio diagrams, which typically goes out of sync with your real environments most of the time.

Graphical Message Flow Viewer

One of the big challenges for support person (especially the ones with less BizTalk knowledge) is to understand publish and subscribe nature of BizTalk Server and see how the messages flow from point A to Point B. BizTalk admin console only comes with flat text based view making it impossible for a non-BizTalk person to understand the flow. BizTalk360 solves this challenge by providing a graphical message flow of each transactions showing clearly how the message travelled through the system. There is no development effort required for this capability, BizTalk360 just leverages the existing tracked events and provides this rich view.

SQL Instances Access

SQL Server is the heart of BizTalk Server, the actual BizTalk application servers are mere processing servers without much logic in them. The real work is done on the core system databases like BizTalk Message Box, Tracking, BAM, SSO etc. So often times the support person will need access to those databases to check some basic things like whether the SQL jobs are running correct, what are the data and log files sizes of the databases and some time running some basic SQL queries against management, tracking BAM databases. BizTalk360 understands all these scenarios and provides direct access (with full security) to SQL instances that's part of your BizTalk environment.

Health Check Tools

The next set of tooling that comes with BizTalk360 is focused around Health Check. One of the common tasks the support person will perform in a BizTalk environment is regularly making daily, weekly, monthly health checks to make sure the environment is in a healthy condition. BizTalk360 comes with tools that will help to do health check easily and in some cases it allows to automate the health check task as well. Here are the key health check tools that ship with BizTalk360

- Message Box Viewer Integration
- Throttling analyser
- Backup/DR Visualizer
- Tracking Manager

Message Box Viewer Integration

Message Box Viewer is key tool from Microsoft which comes with some 400+ rules that validates various things in your BizTalk environment. If you raise a support (PSS) call with Microsoft, the first thing they typically ask you to perform is to run the Message Box Viewer (MBV) and supply the reports. MBV will validate things like whether your message box key tables like "Spool" are healthy, whether you are running on correct version of cumulative update etc. It's recommended you run the MBV tool regularly in your environment to detect any issues. BizTalk360 makes it simple to work with MBV, it's deeply integrated into BizTalk360. You can just point to the location where you have downloaded MBV and schedule to run it periodically (ex: 10pm every day, once in a week etc.). Once it's scheduled to run, you can view the reports directly in the BizTalk360 console, you can also setup alerts if MBV reports some critical problems. Example: "Number of critical errors in the last run is greater than 20"

Throttling Analyser

Throttling is one of the key functionalities of BizTalk server, it helps BizTalk server to maintain a healthy environment. Example: "If the underlying system is not performing well, BizTalk can slow down itself, so that it won't crash the underlying system" In order to achieve this behaviour, BizTalk server watches for 100's of performance counters across all the BizTalk and SQL servers and adjusts itself based on the condition. This

is something complex and normally requires a deep understanding of BizTalk server. BizTalk360 tries to simplify this challenge by providing a single throttling analyser dashboard which helps to understand in a graphical way whether your environment is working well or is under throttling condition. The dashboard is designed in a way, it abstracts all the complexities and just provides a simple one page view with enough information to drill down.

Backup/DR Visualizer

BizTalk server comes with its own mechanism to setup backup and disaster recovery. Out of the box it comes with set of SQL jobs and SQL agent configuration to move data from your production environment to DR environment. Once configured it runs periodically and history records are updated on both sides to keep track of the progress. Like any DR good practices, it's mandatory to check your DR regularly. This typically involves checking your SQL agent service, health of SQL jobs, comparison of history records between environments etc. This will require quite high level of understanding of how backup-DR is configured and where to look for things. BizTalk360 makes this process very simple by providing a single page Backup-DR visualizer. It highlights in RED/GREEN any problem it detects, it basically simplifies the checking process.

Tracking Manager

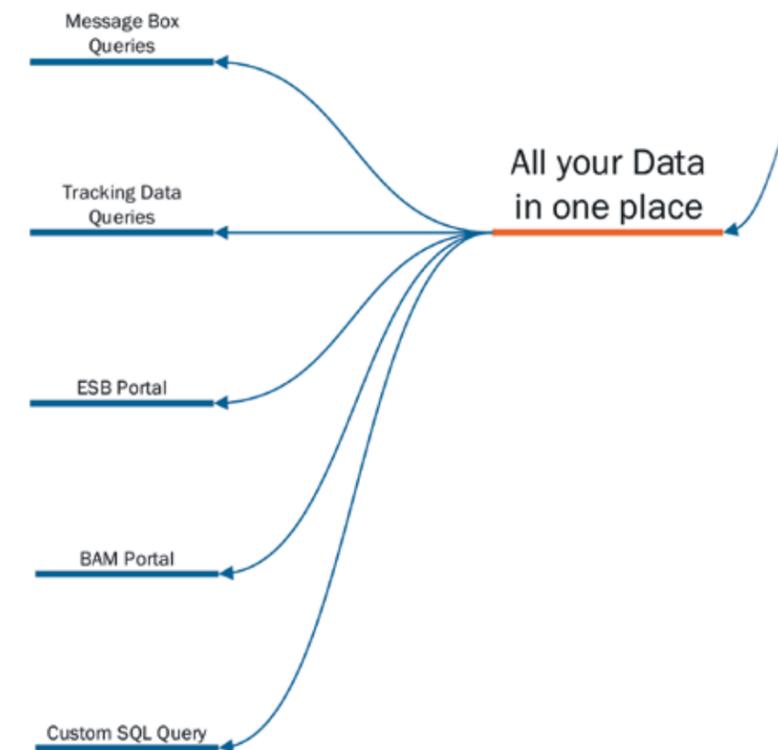
Tracking is one of the key aspects of any middleware product. BizTalk server comes with very rich tracking capabilities. It allows user to configure tracking at various levels. The user can enable/disable tracking at various touch points in the system. Example: "You can enable message properties, message body and Orchestration events tracking at places like receive ports, send ports, orchestrations etc." You can also enable/disable tracking at global environment level. The challenge with current tooling is, it's not centralized. The support person needs to look at multiple places to get hold of this information. BizTalk360 makes it simple and provides a single page view, where the user can simply choose an application and it will show how you have enabled tracking for that application. Tracking too much information has performance impact, and hence it important to visualize how much you are tracking.

All your data in one place

When you are supporting your BizTalk server environments you'll need to have access to various type of data from various systems depending on the type of your implementation. Here are the key places where your support person will be looking for data

- Message Box Queries
- Tracking Data Queries

- Integrated ESB Exception management Portal
- Integrated BAM Portal
- Custom SQL Queries (BizTalk and custom databases)
- BizTalk360 comes with integrated tools to access all these data from various sources



Message Box Queries

BizTalk360 has identical capabilities to BizTalk admin console which allows you to query the real time data that's been processed in the Message Box. It comes with same level of filter capabilities, one of the great advantages here is the web based nature of BizTalk360. The support person can just access the system via a web URL and query the live data. In addition BizTalk360 also comes with query save/

retrieve functionality, the support team can store their frequently used queries in the server and makes it available to the whole team increasing the productivity. Also the integrated knowledge base capability is attached to query functionality, so whenever there are suspended instances with some error code, the support people can associate a knowledgebase article to it, and when that problem happens next time the solution is readily available.

Tracking Data Queries

This is identical to tracking data queries functionality in BizTalk Admin console. One of the major enhancement in BizTalk360 when compared to BizTalk admin console is the graphical message flow viewer. In admin console the support users can only view the message flow in flat text format, which requires some level of BizTalk knowledge to interpret. But BizTalk360 graphical message flow viewer on top of tracking data, makes it seamless to visualise the data flow with little or no BizTalk experience.

Integrated ESB Exception Management Portal

ESB exception management capabilities that comes out of the ESB tool kit is one of the key components used by organisation to handle exceptions uniformly in BizTalk applications. Even though the exception management framework is very robust and strong the ESB exception management portal that comes out of BizTalk server is a sample application and it's not of production quality. It takes typically takes 1 or 2 days to successfully configure the default portal. In order to address this issue, BizTalk360 has first class integration to the ESB exception data, you simply configure the database connection string to your ESB database, and BizTalk360 will show all the exception data within the UI. It also powers ESB exceptions with knowledge base integration, so for various ESB error codes, support users can associate corresponding knowledgebase article.

Integrated BAM Portal

For those customers who are using Business Activity Functionality (BAM) in BizTalk server, they typically access the data using an external BAM portal. This means the external portal needs to be configured and managed. BizTalk360 comes with inbuilt BAM portal integration, so all the BAM Views and BAM Activities data are readily available directly from the BizTalk360 console. This increases the productivity of the support person since all the required data is readily available in a single console.

Custom SQL Queries Access

In a BizTalk scenario it is a very common practice for the support people to maintain a list of useful queries against the SQL database. Examples:

- Large messages in tracking database
- Send ports to specific locations
- Send ports not started
- BAM Activities that are not completed
- Total messages processed in the last 4 hours etc.

In order to execute and get the corresponding results the support person needs to have access to the corresponding SQL server instances which is risky, since the support person is free to run any query. Some of the queries may be potentially harmful, for example: running a select statement without any hints against tracking database with 2 million records. BizTalk360 solves this problem by providing a rich platform to store and execute queries with high security. DBA or super user can create fully optimized useful queries and give appropriate permission to the support users to run them. This way productivity of support person is increased, since the data is accessible within the same tool and also you can cut down direct database access to the support people. All the queries will run under the context of a system account.

Monitoring and Notification

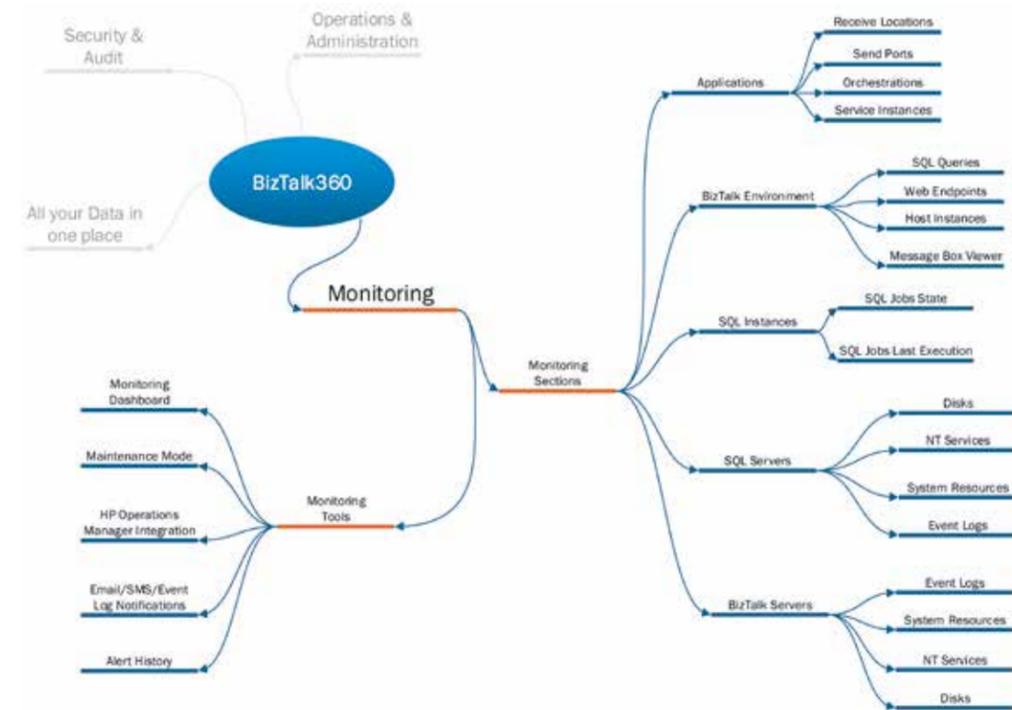
Last but not the least is the monitoring and notification capabilities of BizTalk360. For an important middleware platform like BizTalk server is key to proactively monitor the health of your BizTalk applications, infrastructure and some dependant components like databases, disks, web end points etc. BizTalk server as such doesn't come out of the box with any monitoring capabilities. It relies on System Centre operations manager (SCOM) for monitoring.

There are various challenges with this model, first of all SCOM is an enterprise class monitoring solution and it's not something designed for BizTalk. Here we have two complex product, SCOM on one side and BizTalk server on the other side. Often times the main challenge will be to find a resource who can understand both the products and come up with a strategy to setup monitoring. The other challenges we have seen is when companies use other enterprise class monitoring solutions like HP

Operations manager, IBM Tivoli, Solar winds, etc. These monitoring solutions have very poor capabilities when it comes to monitoring BizTalk server. Majority of the times it will requires lot of custom components/plugins development and even then they can only achieve part of what they really need. In addition the additional cost and efforts in managing those custom plugins.

We wanted to solve all those challenges in BizTalk360 when it comes to monitoring. We wanted to make sure the required monitoring from a BizTalk environment/applications perspective must be done in hours/days not in weeks and months. Keeping that in mind we build the full monitoring capabilities that comes out of the box with BizTalk360.

The following mind map shows all the capabilities and tools that comes along with BizTalk360 for monitoring.



At very high level there are two important characteristics when it comes to monitoring.

- BizTalk360 comes with various monitoring sections that are relevant to BizTalk applications and environments
- BizTalk360 also comes with tools that are required to configure, operate and manage monitoring seamlessly.

Monitoring Sections

The below table shows a tabular view of things that you can monitor using BizTalk360. Some of the monitoring sections like Event Log, Database Query, and web Endpoint etc. are very generic and can be used to cater for various scenarios.

Main Section	Sub Section	Comments
BizTalk Applications	Service Instances	<p>Allows you to configure monitoring for various service instances states like</p> <ul style="list-style-type: none"> Suspended (Resumable) Suspended (Non-Resumable) Ready to Run Active Dehydrated In Breakpoint <p>This also avoids support person actively refreshing their group hub page for any suspended instance or too many active instances etc.</p>
	Receive Locations	<p>You can monitor any desired state of receive location, send ports and orchestrations. Example you may want to make sure certain receive locations are always up and running, on the other hand you may want to make sure certain receive locations are kept in disabled state. BizTalk360 makes it possible to monitor any expected state for the BizTalk application artifacts.</p>
	Send Ports	
	Orchestrations	
BizTalk Server(s)	Disks	<p>BizTalk Server sometime may heavily depend on the file system and available disk space, especially when you are using FILE based adapters. BizTalk360 helps you to easily setup warning and error levels based on available free space in the disk.</p>
	NT Services	<p>When you are running a BizTalk environment some of the NT services that are running in your BizTalk server and their health becomes important. Example</p> <ul style="list-style-type: none"> Enterprise Single Sign On Rules Engine Base EDI World Wide Web, etc. <p>BizTalk360 makes it easy to configure and watch out of any expected state of the NT services.</p>
	Event Logs	<p>Event Log monitoring is very powerful in BizTalk360 and this single capability can be used to monitor various systems. Example: Pretty much every system writes something to the event viewer when things go wrong. Example: If you are using IBM WebSphere MQ and if there are any errors, it write events to the server. You can configure BizTalk360 to watch out for those events and send notifications. You can configure BizTalk360 event log monitoring to look out of events with specific</p> <ul style="list-style-type: none"> Logs Sources Event Ids, and Text

	System Resources	<p>Using BizTalk360 you can easily monitor the health of system resources like CPU and memory. You can setup warning and error levels for CPU usage and Memory usage. Example: If CPU usage is consistently above 80% for 10 minutes then send notification, if the system memory drops below 20% send notification etc.</p>
SQL Server(s)	Disks	<p>The capabilities are identical to BizTalk Server. BizTalk360 just makes it possible to monitor the core SQL servers which hosts the important BizTalk System databases seamlessly.</p>
	NT Services	
	Event Logs	
	System Resources	
SQL Instances	SQL Jobs – State	<p>SQL Jobs are one of the key elements in a BizTalk environment. They are responsible for the overall health of your BizTalk environment. SQL jobs take care of moving certain data from Message Box database to tracking and BAM databases. So health of these jobs are critical to the health of BizTalk environment.</p> <p>BizTalk360 will allow you to monitor both the state as well as last execution status of all the SQL Jobs</p>
	SQL Jobs – Last Execution	
BizTalk Environment	Host Instances	<p>You can monitor any desired state of the BizTalk host instances using BizTalk360. Example: Started, Stopped, Disabled etc.</p> <p>You can also monitor clustered hosts instances seamlessly using BizTalk360, just click a button saying “At least 1 must be active” and BizTalk360 will notify you when the entire cluster becomes offline.</p>
	Database Queries	<p>BizTalk360 comes with a generic database query monitoring capabilities which opens up lot of possibilities.</p> <p>If you wanted to monitor the depth of the spool table in BizTalk message box database, you can write query like this</p> <p>“select count(*) from spool with (nolock)” and check if the count > 50 its warning and if count > 5000 its error.</p> <p>As long as the query returns a scalar value (string, integer, Boolean) you can set up monitoring against it.</p>
	HTTP Web end points	<p>In an integration world it’s very common to integrate with lot of HTTP based end points like SOAP, REST services. It’s important to keep an eye on the health of those end points. With BizTalk360 web-end points monitoring you can make sure the URL end points are returning correct status codes ex: 200 OK</p>
	Message Box Viewer	<p>BizTalk360 comes with monitoring and notification for Message Box Viewer (MBV). Ex: You can set it to notify via email, if the number of critical errors > 10 or non-critical errors > 25 etc.</p>

Important Features

There are some important features in BizTalk360 that you need to be aware of, BizTalk360 is purely designed and built keeping BizTalk server monitoring in mind. One of the key objectives is to make it simple to configure and easy to manage on a day-to-day basis.

Agent Less

BizTalk360 monitoring is completely agent less. It works from a central installation and there is no necessity to install any agents in any of the BizTalk/SQL servers. As long as the service account (under which the BizTalk360 monitoring services is configured) has adequate permission it can monitor and notify. When it comes to scalability, you can install multiple installation of BizTalk360 (one for production/DR, one for all QA etc.) until the service hits a bottleneck.

Process Monitoring

Some of the monitoring scenarios are very unique to BizTalk (or any middle ware) scenario. One such monitoring is process monitoring. Example: You may be expecting a batch file (message) from your trading partner every day at midnight, and for some reason the partner didn't send you the message due to some firewall issues. These kind of scenarios cannot be monitored using traditional monitoring solutions, since it's very specific to BizTalk server. BizTalk360 solves this challenge by providing a process monitoring capability. Ex: You can set monitoring to look for "X" number of messages every hour or day and you can define your own business days and business hours.

Negative Monitoring

Negative monitoring also called as expected state monitoring is another key feature of BizTalk360. In lot of scenarios in BizTalk server you probably are not going to monitor only healthy state of artifacts, ex: It's very common you keep some of the BizTalk host instances in a disable or stopped state and only start them under certain conditions like DR or high load. You don't want someone to accidentally start those host instances. These kind of negative monitoring is applicable in lot of areas like Receive Locations, Orchestrations, Send ports, NT Services etc.

Automatic Health Check

BizTalk360 allows you to setup status monitoring and notification. Example: You may be interested to get a clean summary email of the overall health of your environment on every working day (Mon-Fri) 10 am in the morning. Currently one of your team member may be performing this task manually, but with BizTalk360 you can automate this process.

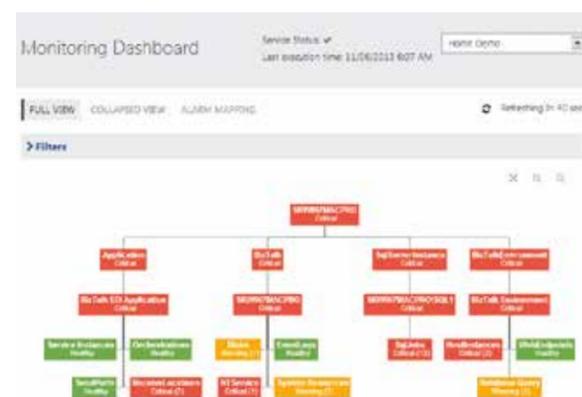
Monitoring Tools

In addition to covering wide range of artifacts that's required for keeping the BizTalk environment in a healthy state, BizTalk360 also comes with set of tools that makes it easy to manage them on an ongoing basis.

- Monitoring Dashboard
- Maintenance Mode
- HP Operation Manager Integration
- Various Notification Channels

Monitoring Dashboard

Once the monitoring is configured, BizTalk360 will automatically show a monitoring dashboard with Red/Green/Yellow indicators organised in a hierarchical way. Lot of the customers display them on big screens in the operations room so that 24/7 operators can immediately react to alerts. It is possible to have multiple dashboards with only the relevant information/monitoring features enabled.



Maintenance Mode

From time to time you may need to take down monitoring for maintenance. Example: When you are performing some deployment operations in the environment. BizTalk360 also allows to plan a scheduled maintenance in advance. Example: Your IT team is going to perform some patches in the server during weekend.

HP Operation Manager Integration

BizTalk360 comes with first class integration with HP Operations manager. The monitoring alerts can be sent directly to the HPOM console. The configuration is very easy and straight forward, you simply need to configure the HPOM management service URL and required credentials.

Various Notification Channels

BizTalk360 out of the box comes with various notification channels like Email, SMS, HP Operation manager and also writing an event to the event viewer with specific event ids. This can be useful and opens the opportunity to integrate with other third party monitoring solutions. Since pretty much every monitoring solution will have the ability to read events from event viewer and display it on their corresponding consoles.

Conclusion

Overall you can see from this article, BizTalk360 is designed and built keeping in mind one core objective "Providing great tools for BizTalk environment operations, administration and monitoring". Our focus is primarily on helping support people, who actively manage BizTalk applications and infrastructure on a day-to-day basis.

About the Author

Saravana Kumar is the original founder and CTO of BizTalk360. He is responsible for the technical vision and strategy of the product. He has more than 17 years of experience building world class software, and majority of his career involved in BizTalk Server (since 2000). He is one of the 20+ Microsoft BizTalk Server MVP's in the world (since 2007), mainly awarded for his active participation in the BizTalk server community. He works very closely with Microsoft product team on software design reviews and product discussions. He is a regular speaker in most of Microsoft BizTalk events across the world. You can follow Saravana on [linkedin.com/in/saravanamv](https://www.linkedin.com/in/saravanamv) and twitter.com/saravanamv.

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BizTalk360

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