



Analyst Report: Value-Based Case Study

A Systems Integrator and Services Provider Cuts Costs, Creates New Revenue Streams While Improving Service Delivery



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Applying common sense to using technology intelligently

MANAGEMENT INTRODUCTION

Imagine you are an IT service provider to a financial institution like a brokerage. It is 10 minutes to market closing and a \$40M transaction has gone missing. If the trade is not completed, the brokerage will not only be liable for regulatory fines but also for interest foregone and, potentially, any price change that occurs the next day. It will hold its service provider liable if it proves to be an IT issue that has caused the problem.

This is a scenario that is all too common, not only for financial institutions, but for any organization that is heavily dependent on business-critical transactions. The financial implications are unpleasant. The customer relationship implications are, worse.

Any organization running disparate, distributed services or platforms depends heavily on their transactional messaging and integration infrastructure. Optimization of performance levels for that layer make it cost-effective to develop and run applications at scale, avoid disaster scenarios like the one described, and meet or outperform service level agreements.

The following case study — which reaches across industries like aviation and finance in which sophisticated managed service providers operate — shows how it is possible to break out of the confining jail in which much of Operational IT seems to operate. The outcome of the (real-world) scenario above will be shared later. But before that, consider what happened with a service provider's major international airline client.

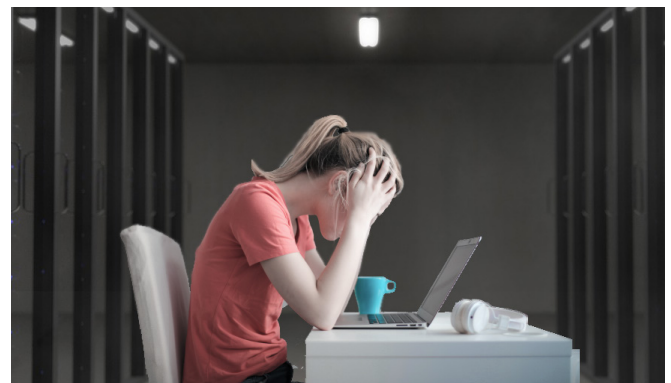
Traditional Systems Management Can Be Insufficient

This airline, like many others, contracted out much of its IT operation to an international managed services provider. Amongst the 'assets' that became the responsibility of this service provider was an extensive network of IBM MQ, running on everything from z/OS mainframes to HP's NonStop servers to many flavors and instances of UNIX, Linux and Windows. All these IBM MQ instances provided mission critical support to the airline. For example:

- *Reservations, to communicate rate and fare changes to travel booking partners*
- *Aircraft operations, in the calculation of load factors (for this, applications adjust almost in real time as passenger numbers, weather conditions, cargo and fuel loads all continue to change - right up to departure).*

In these two situations, availability and reliability are critical both to commercial operations (sales, via the travel partners, etc.) and to safety for the airline. The service provider knew this when it accepted contract responsibility.

In the past the airline had introduced BMC's Truesight (also previously known as Patrol) for systems and network management. This had worked reasonably well on its larger



systems. However, for management of many of the distributed ones, it was inconsistently applied, not applied or not available. Indeed, some of the IBM MQ server platforms were being monitored by non-Truesight solutions, or not being monitored at all.

There was, therefore, a broad mismatch, as far as the service provider was concerned, about how it would be able to meet its service obligations. In addition, there were serious reservations about aspects of the way Truesight worked — for Truesight requires the installation and use of software agents on the platforms it manages. For the service provider using agents possessed four significant downsides:

- Rolling out agents takes time and skilled effort for their successful installation
- Software agents necessarily alter each system on which they run. This comes with attendant risks
- Upgrading or changing systems where such agents are installed is cumbersome. Worse is that using agents mandates extensive retesting to ensure all is working as expected
- There were thousands of IBM MQ endpoints, but each instance of their existing MQ management system could only handle 250 nodes at that time.

The service provider decided that this situation was too expensive to continue if it was to fulfill its obligations to the airline. It decided to investigate alternatives, and not just related to IBM MQ, but also for other messaging oriented middleware which were increasingly being adopted.

Making a Choice

The systems provider examined multiple alternatives, including IBM's Tivoli, MO71 (an MQ Explorer-like SupportPac) and even Nastel. None really satisfied the requirements in the way the service provider felt it needed, especially:

- The scalability to handle thousands, not hundreds, of MQ and Active MQ nodes
- Operational flexibility
- No use of agents required
- The combination of maximizing automation where possible but also providing a means of secure operational collaboration when automation would not solve everything.

The service provider's objective was, therefore, to reduce costs — in two forms: reducing daily operating expenses while also minimizing the investment required when making changes.

As part of the investigation of alternatives the services provider talked with one of the large airline reservation companies. The latter had faced a similar situation and in its own research it had discovered a product called Infrared360[®] developed by Avada Software. From the reservation company the service provider learned that Infrared360 was apparently capable of high degrees of automation for managing MQ resources. This

“For the service provider, using agents possessed four significant downsides...”

included being able to access a queue manager even if it had failed using Infrared360's SOAP listener module (which enables remote restarting, reinstalling, definition and log downloading — all occurring with security preserved).

The service provider then undertook its own research into Infrared360. The first obvious attraction was that Infrared360 is agentless. It could also be installed in parallel. One of the issues with adopting Tivoli, for instance, was it would mean uninstalling all the Truesight agents, then installing Tivoli agents (for these could not be run in parallel) — and then retesting everything again. In contrast, Infrared360 could be installed, run in parallel with Truesight and its agents and, only if Infrared360 was proven, would Truesight then be removed.

A second immediate attraction, again because Infrared360 is agentless, was that the rollout to all platforms — from z/OS to Linux or Windows — was uniform. There would be no discrepancies or differences in MQ management tools or approach. In part this was delivered because Infrared360 is a J2EE application acting as a portal which installs and runs on any App. Server (WebSphere, Apache, JBoss, etc.) as well as work with most databases (DB2, Oracle, SQL Server, Informix, etc.). This portal approach would then link to (and from) all the instances of MQ. Nothing would need to be deployed out into the field instances of MQ. Furthermore, updating or upgrading Infrared360 itself is as simple as unzipping a file. Tomcat Server is built right in. There would be none of the complexity and cost associated with Truesight and the previous IBM MQ management approach.

A further attraction of this approach was that it could run on and exploit existing App. Servers in the airline. This meant that scalability (and other positives like failover and disaster recovery) could be ‘inherited’ from the airline’s already robust App. Server environment without additional work.

The next attraction was on the manager side: everything is managed through a browser. The practical implications of this were considered far reaching because it would:

- Remove the need for clients to be deployed on designated management workstations as well as the need for specific security to be applied to these designated management workstations (not to mention the time that would save not having to update clients for each future update of the product).
- Extend the principle of management consistency across the whole of the IBM MQ ‘estate’ (which had not been possible before)
- Mean that access to the IBM MQ environment would be available from anywhere specialists were located or where they needed to be
- Eliminate added security risks of hundreds of clients on hundreds of devices
- Improve flexibility both for employees and their tasks.

For this services provider these attractions were compelling. It had signed the management services deal with the airline. Any costs — like those described above — that could be taken out (of the cost of providing the services to the airline) would drop straight through to the service provider’s bottom line. These were sufficient reasons to decide to introduce Infrared360 (and practice has since proven these to be accurate).



Practice Is Beyond Effective

Perhaps, however, the most impressive extension for the airline is the automated fixing of problems. The service provider now uses ‘compound alerts’ to anticipate and resolve issues. For example, a queue may need to be restarted; it may not initially be apparent that the source application or service at the far end has also failed and needs restarting. The traditional solution sequence was to solve each issue as the operator encountered it. Using Infrared360 the service provider now defines in advance ‘compound alerts’ which can then complete the whole correctly sequenced restart process (queue manager, channel, queue, application, etc.). Using the services interface within Infrared360, there is now no user intervention if the criteria for a given compound alert are satisfied. The mean time to fix failures:

- **Has dropped from a minimum of 2 hours to minutes (or less)**
- **Is accurate**
- **Generates a notification of what has happened — for the reporting described above.**

This continues to save a fortune in time. It also improves the service to the airline.

Further, Infrared360’s Trusted Spaces™ feature allows the provider to enable secure delegated administration of client environments or configure their management

approach in a way that allows one single instance to manage multiple clients (somewhat like a secured multi-tenant instance), individual instances for individual clients, or a mix of both.

Trusted Spaces™ governs access and visibility for all users, down to the object level, based on Administrator-assigned groupings and permissions (Figure 1). This feature allowed the Service Provider to show or not show specified objects based on whether a user is approved to see objects associated to that space. This includes objects such as Services, Charts/Dashboards or Alerts to that space. This feature set allows the service provider to limit visibility and/or access to objects such as Queues, Topics, Consumers, Channels, Applications, Flows, and other integration-type server resources according to the “permissions” or “role” of the user. Trusted Spaces enables the service provider to control what they managed at the same time as deciding what secure, smart, self-service IT administration to enable clients with. This saves their team effort and time that they can better utilize elsewhere.

Business Impact

For this service provider the business impact of Infrared360 has been extensive, and goes well beyond the airline example above. The capabilities of Infrared360 have started to generate wholly new opportunities and revenue streams.

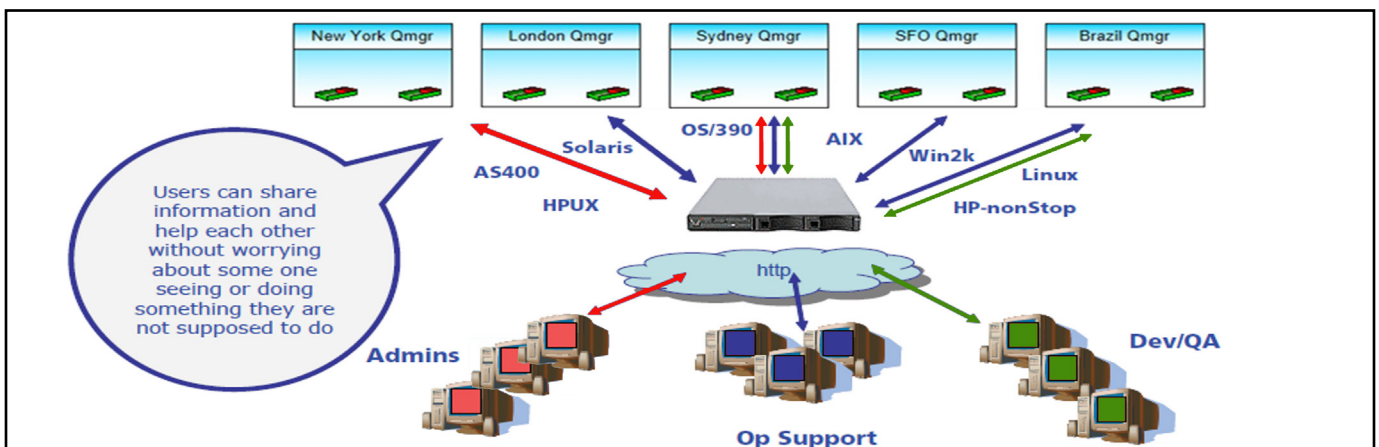


Figure 1: Collaboration which preserves security

Sales teams are, today, able to be much more responsive to potential new customers. In the past the service provider would take weeks if not months of learning and preparing before it could start to introduce its management and techniques, and before it would accept responsibility. This delay is no longer necessary. Because Infrared360 is non-invasive, it can run in parallel. The effect, in the sales instance, is that the service provider can start to work earlier at prospects and in so doing convince potential customers that it can deliver. This has proven to be a powerful sales tool (and another unanticipated benefit).

While support of the airline was focused on IBM MQ as its principal objective, this service provider is now looking to extend the same Infrared360-based approach to App. Servers, whether WebSphere, Oracle, Tomcat, JBoss or others. There is no reason not to do this, and the limits do not stop there. Infrared360 also manages and monitors Kafka, Web Services, SOAP, REST, & URLs as well as gateway appliances like DataPower and MQ Appliance.

The Missing \$40 Million

Back to the missing transaction. Finding a missing transaction with only minutes before the market closes is not simple in today's complex financial systems. If the transaction is not where it is expected, then it could be anywhere (just like your car keys, except transactions are intangible and exist within an equally intangible infrastructure).

One attribute of Infrared360 is that it can search data within a message (beyond just the transaction ID, if this is even known).

For example looking for the name of the brokerage's customer, the destination account, or even the transaction amount. Using this capability a search for the missing transaction was started. Within seconds it was found, its header was modified, it was resubmitted and it was processed before the market closed.

Where was that transaction? It was in the development environment, sitting on a development queue. Why? Someone had forgotten to change queue manager designations (from Dev. to Production) and so the \$40M trade had gone to the wrong place. It happens. It happens all the time (maybe not so frequently with a combination of such a large amount just before the markets close). There was extreme relief all round.

ANALYST'S CONCLUSION

The airline this service provider supports has obtained substantial operational benefits through the introduction of Infrared360 — from improved reliability through to improved SLA observance and vastly better insights into what is happening before it happens. For the service provider, deployment has not only enabled it to meet its obligations but it has been able to go further — reducing costs, opening up new revenue streams as well as embracing capabilities that have landed new customers.

The importance of the agentless approach continues to prove itself. Not only is it non-invasive (which matters to most large IT organizations that fear to 'alter' anything without extensive retesting) but it is flexible and can run in parallel. With an application that runs on common App. Servers, this service provider has simplified its operations while improving its quality. Its business model, and its customers, now depend on Infrared360.



FOR MORE INFORMATION ON INFRARED360 OR TO ARRANGE A DEMO [CLICK HERE](#)