

White Paper

Where Next For The Middle Office?

Consolidated exception management, APIs and the evolution of the middle office



Within every process across the front, middle and back office, there are anomalies (known in asset management parlance as 'exceptions'). Compliance, risk, corporate actions, fund accounting, Investment Book of Records, trade processing, client reporting – there are exceptions at every turn. Many asset managers have different systems for all of these processes, each generating their own list of exceptions. Even within each stage of the investment process there may well be more than one system reporting the anomalies.

For example, within trade processing there may be various software solutions handling the transactions for different asset classes, such as derivatives. The multiplicity of exception management data that asset managers have to deal with on a daily basis creates, ironically, the irksome task of manually processing and checking all of these individual error reports or system records.

If senior management could view key data in one place rather than logging into each individual system or depending on a multitude of reports, it would be a huge leap forward for middle office operations. In such circumstances the numerous underlying systems would almost become processing utilities. In a perfect world the exceptions from all of an asset manager's systems could be channelled into one dashboard (though this might only be achieved by using effective API technology).

CONSOLIDATED EXCEPTIONS

In this nirvana state, all issues would be reflected in a 'Consolidated Exception Dashboard' (CED). For example, an asset manager may process thousands of trades a day. Currently, members of its middle office team would have to look into all the processing systems to find out why there are problems. If key issues could be flagged up in a Consolidated Exception Dashboard it would speed up processing and reduce the amount of staff required to manage inconsistencies.

For an exception management software provider to achieve this kind of service, it would require the asset manager's other vendors to provide access to exception events, via APIs to their internal platforms. It would also necessitate the collection of exceptions data from any external utilities such as DTCC Oasys, CTM and TradeSuite along with messaging services like SWIFT, data vendors such as Bloomberg, Thomson Reuters, IDC and RIMES, and third parties such as brokers, dealers and custodians.

Here is a simplified, high level overview of a middle office environment in a typical buy-side firm that would benefit from a CED. Of course, it is always easier to draw a simplified infographic that depicts such an operation rather than to actually build one, but we have positioned an indicative, common solution architecture in Figure 1.

"Aside from a brief period in the Early Digital World, every stage in the evolution of the middle office failed in its goal of reducing staff numbers."



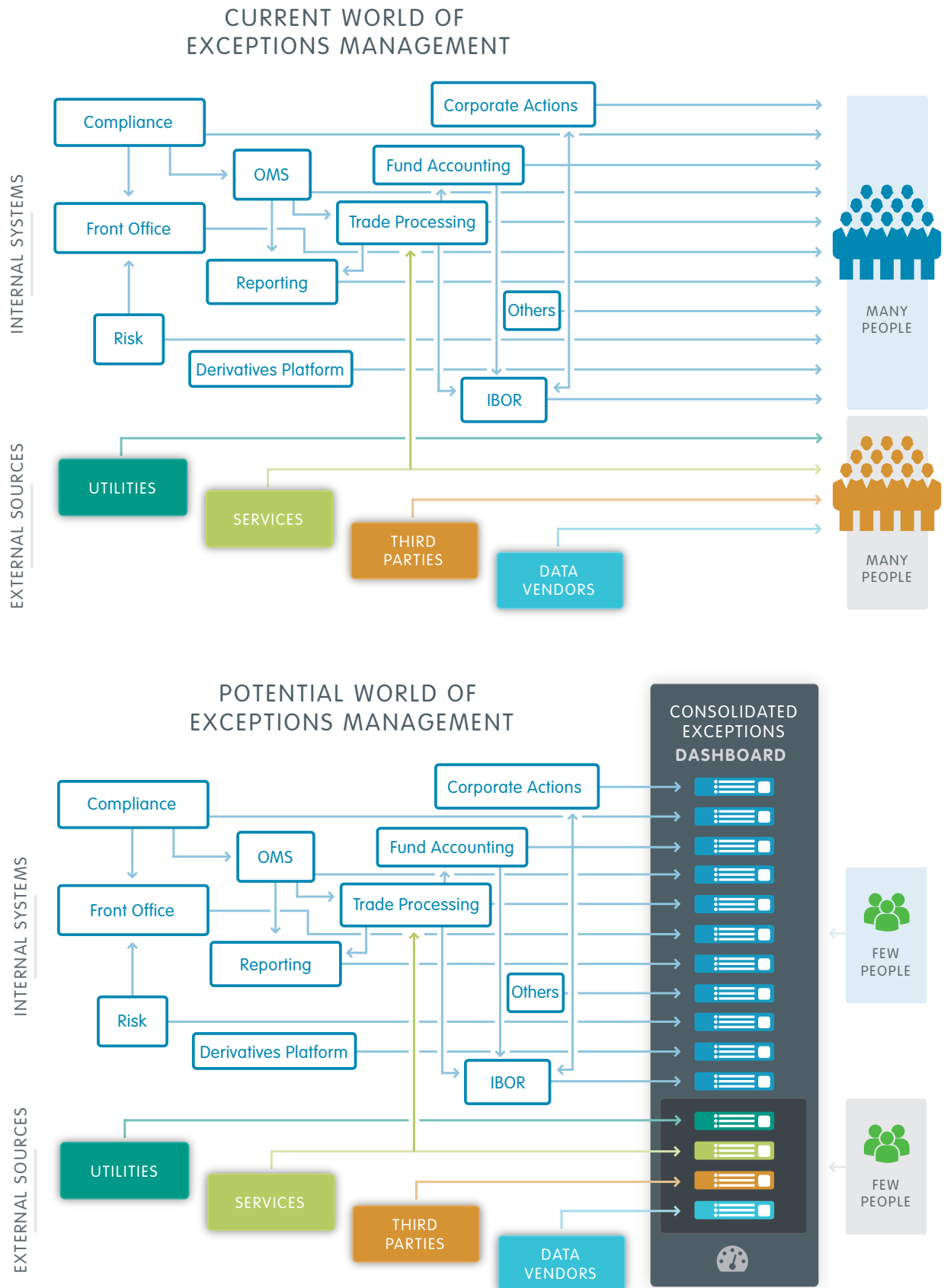


Figure 1: An Evolution of Exception Management

EVOLUTION OF THE MIDDLE OFFICE

Perhaps this concept of a CED is the next stage in the evolution of the middle office? There have, of course, been data management platforms performing a similar function to this, but they were commonly using data rather than APIs. Files of data needed to be sent to a data management platform for the asset manager to then deal with the issues. In contrast, APIs are essentially a tunnel to the data, where the asset manager can collect or send whatever information they want with no need for a pre-defined file.

In this way, the four phases in this middle office evolution might be visualised as follows (see Figure 2).

First phase: Paper World

Back in the 1980s, almost everything in the middle office was paper-based. There was lots of paper, faxes, staples, phone calls (from fixed lines), memos (in garish, reusable orange envelopes) and files. The embryonic middle office might employ thirty staff to manage this paper world – long before automation in this area was beginning to get established.

Second phase: Early Digital World

By the 1990s a small number of systems were in place, covering functions such as order management, trade processing, position-keeping, corporate actions and so on – overseen by perhaps twenty staff. At this point automation had reduced staff numbers in the middle office – to the delight of the COO.

Third phase: Present Digital World

By 2000 the number of those middle office systems had grown considerably, to include functions such as client reporting, performance measurement/attribution, compliance and risk management. There might be ten such platforms within a typical asset manager's middle office, run by perhaps 50 staff. The proliferation of systems was partly due to the more complex needs of the asset management industry and partly down to the development of the vendor market, as buy-side firms attempted to migrate away from spreadsheets. At this time the only way to communicate exceptions data was to send a file from one location to another, pre-defining every field and following a very specific order within the file.

Fast forward to 2019 and the number of active middle office systems has swollen enormously, up to 400 in some cases, with specialist software for instruments such as complex derivatives and processes like fixed income attribution. This plethora of systems are all attempting to communicate with each other, with a whirling dervish of data at its core and a growing army of over 200 staff, dutifully keeping watch over each system and waiting for the exceptions.

Fourth phase: Future CED

This fourth phase, with a CED in place, might reduce the number of middle office staff by as much as 50%, as the main focus becomes the oversight of aggregated exceptions rather than scrutinising each and every individual system for issues.

Aside from a brief period in the Early Digital World, every stage in the evolution of the middle office failed in its goal of reducing staff numbers. The addition of more and more systems only increased the number of personnel required and the middle office has become a fiefdom in its own right. The original vision for the middle office in the paper world (where automation would significantly shrink the number of personnel), can realistically now only be realised by the introduction of a CED.

LOOKING TO THE FUTURE

Yet the story of the middle office doesn't end here. Could this concept of a CED be the foundation for a middle office operation that benefits from new ideas associated with machine learning and artificial intelligence to truly establish a middle office of the future? In essence we need to reduce the reliance on people.

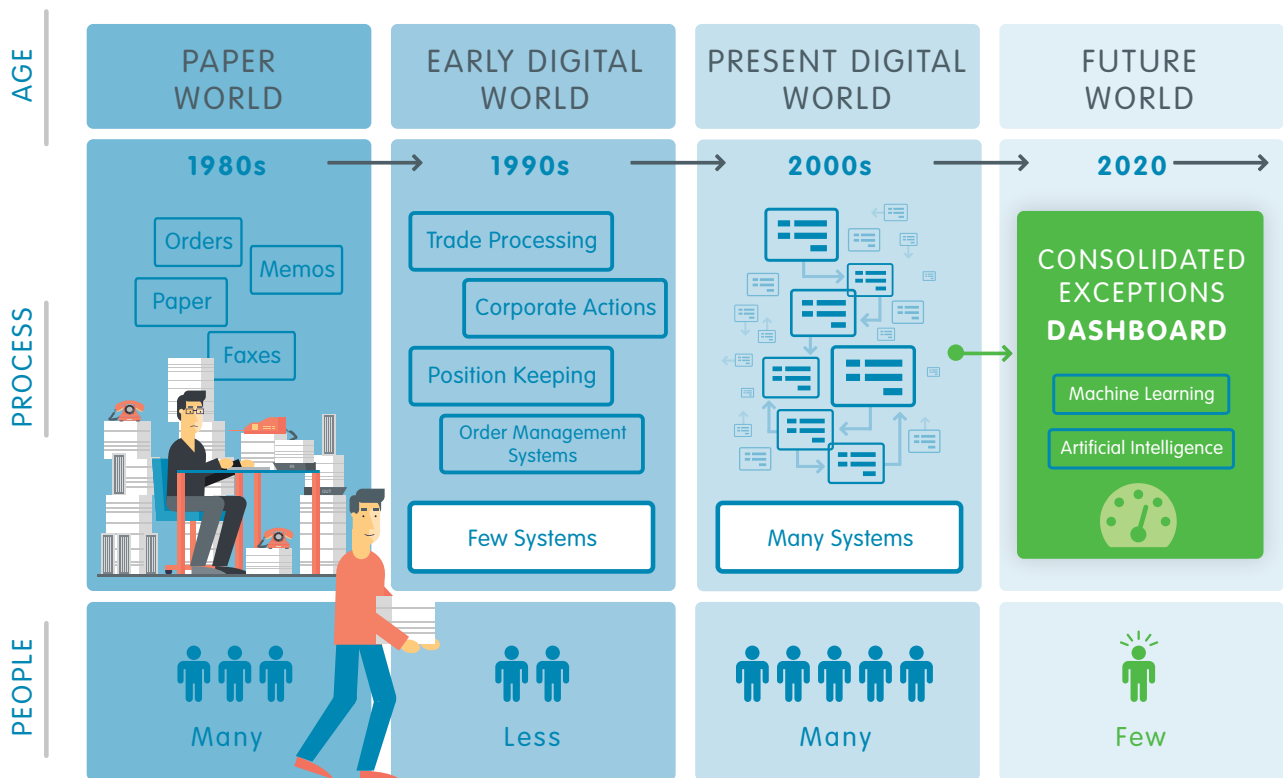


Figure 2: The Evolution of the Middle Office

Of course, every asset manager views their IT stack in their own unique way, but a common theme is that they all need to deal with process exceptions or failures that occur in every platform within the middle office. And the truth is that without machine learning and AI, the Consolidated Exceptions Dashboard is likely to fail in the same way as all the other previous attempts at reducing staffing in the middle office throughout history.

Since the 1980s, Chief Operating Officers have been trying to reduce expensive resource overheads in the middle office. Perhaps with the introduction of a Consolidated Exceptions Dashboard they will finally achieve their goal.

David Veal

Senior Executive - Client Solutions
corfinancial
info@corfinancialgroup.com



Email: info@corfinancialgroup.com

Visit: corfinancialgroup.com

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