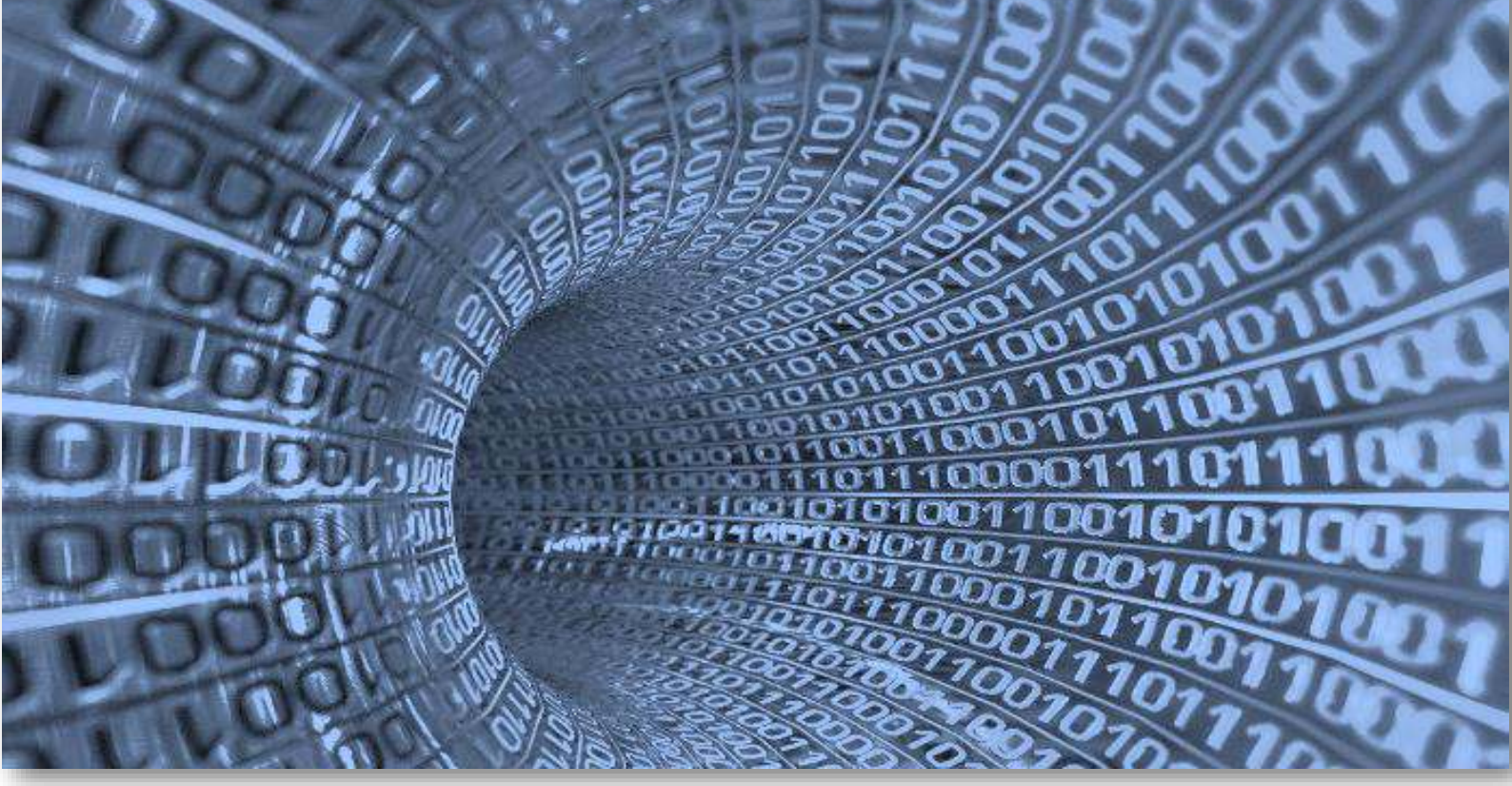

INTEDEX

TURN PAPER

SAP DATA HARMONISING

The following document attempts to answer general questions to INTEDEX and synchronising data between SAP systems.

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SAP DATA HARMONISING

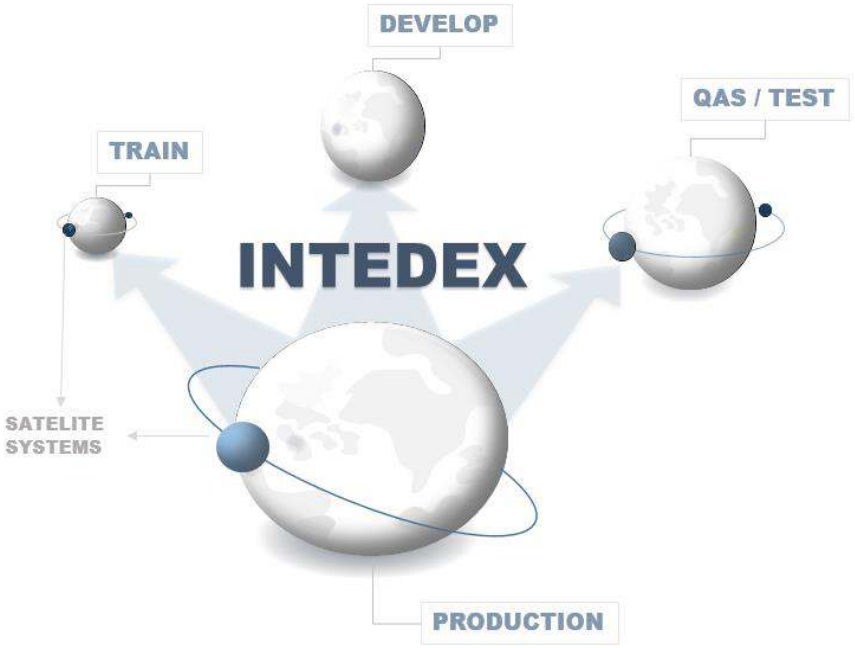
Contents

INTRODUCTION

Intedex is an advanced tool designed to refresh Development, Quality and Training Systems with Production Data.

Intedex synchronises cross sections of SAP data, such as Master Data, per Application Area / Module. We call this data harmonising. Integrated seamlessly into existing systems with cognisance of custom ABAP development, industry solutions and with different versions of SAP.

Intedex's primary objective is to transform the DEV, QAS and Training system with relevant Production data to enhance the use of these systems for better project and risk management. This is done by harmonising specific master and transaction data in these systems without the need to destroy or rebuild the entire system.



KEY BENEFITS

Rebuilding relevant data in supporting systems revitalises the investment put into these systems. Supporting systems become harder to support and rapidly become obsolete due to the lack of relevant data. Primarily traditional tools have an all or nothing approach. This is costly when no data is delivered to a project team or data is delivered at the expense of other projects.

Intedex meets this challenge by avoiding total system rebuilds, by reloading specific subsets of data that are necessary to the project team.

Likewise, testing in QA requires real transaction data that must have its holes and blemishes to accurately represent production.

THE NEED FOR INTEDEX - JUSTIFIED

The following section outlines the importance of a tool like INTEDEX.

JUST A MATTER OF CLASSIFYING DATA

The concept of Master data, transaction data and configuration are well known in SAP environments. Except that data physically is not classified according to this. SAP classifies data as Application data and Configuration. Even then some database tables span all categories such as Text, Change documents and number ranges.

Intedex classifies your data into a Catalogue - determining the best fit for each table in your SAP system. From this, it classifies data according to your needs. It can even change its perspective of the data according to your view of the data. Hence looking at Text from a master data perspective will isolate the text that is master data specific.

WHO CAN TEST ANYTHING IN DEVELOPMENT?

Master data is crucial in a Development system – without it, no transaction data can be captured making unit testing in a Development environment extremely difficult. Requiring any and all development changes to first be transported before unit tested.

INTEDEX distinguishes Master data from Transaction data and hence enables the project to refresh specific components of the data to meet project needs.

HAS THE TRANSPORT TRAP ALREADY SPRUNG?

Development systems are often neglected with the team relying solely on the QA system for testing. Eventually, no testing is achieved in Dev. All development is moved to QA untested and this negates the purpose of the Development system. A sure sign that the data trap has sprung is a rapid increase of transport requests between Development and QA.

Intedex can rapidly refresh master data and specific application data. Enabling reliable unit testing, reducing the number of transports into QA and ensures that single complete project transports are migrated into QA for realistic integration testing.

SURPRISE DATA

Large systems run many projects in parallel. Different teams with varying objectives and demands. Each requires a supply of accurate data. Poor data delivery results in increase project cycles costing the project with inefficiencies. This is usually caused by 'surprise data' that is only detected when the project goes live. Often identified too late and often puts the project and the system at risk with a nervous project go-live.

INTEDEX delivers surprise data to the project in the beginning. It ensures that the team is aware of production anomalies and ensures the project is comprehensive and tuned to meet production requirements.

THE IDEAL PROJECT LANDSCAPE

A Project Landscape creates multiple work-in-progress clients for each major project. Each has its own unique data that is refreshed at that projects pace. In some cases, this may be weekly, whilst others may require a very stable set of data that is only refreshed when other test systems are refreshed. The objective is to refresh selected data within specific clients without affecting the other clients, projects or systems.

Intedex is ideal for this as it has the ability to filter transaction data, thereby shrinking the data down to a smaller subset of relevant data needed to perform unit testing. Once the project has completed its unit testing, a complete project can be migrated into a Quality system for thorough Integration and completeness testing.

SUPPORT

Errors in Production can often be identified but hardly reproduced in supporting systems. Primarily since configuration may already be in place to ensure that the error cannot be recreated but what if the error existed before the configuration was enabled.

Intedex can reduce the support cost by effectively synchronising a subset of Production data into a QA Support system. This immediately exposes the problematic scenario to analysts and developers who can build a solution. Testing the correction is also done on the very documents that failed and hence risk management is completely controlled.

INTEGRATION TESTING

Integration testing requires that all master data and supporting transaction data be available before testing commences. Many Test or Quality systems contain data that has outlived its usefulness. Risk can only really be lowered by improved testing. The more efficient this testing becomes the lower the cost. Testing requires good and bad data since this is an accurate reflection of Production data. In this strategy, we assume that a client is reserved for testing. A typical client refresh usually refreshes or resets the entire system, requiring the client to be reconfigured or for a host of transport requests to be reapplied to the system. Often the rebuild of QA also destroys the test infrastructure.

Intedex is designed to leave the infrastructure alone and refresh the data that is being tested. The benefit is that your test environments become more accurate, fast and cheaper whilst improving the quality of risk management within the system landscape.

ARE SATELITE SYSTEMS OUT OF ORBIT

BI, APO, and CRM all need to integrate into our SAP Landscape. Each requires a Development and Testing environment and much like R/3 projects are dependent on quality data from Production. Satellite Systems are only exposed to data when migrated to the Quality system. This adds burden onto QA, increases the number of transport and completely invalidates the investment into Development Systems.

INTEDEX brings necessary data for CRM testing into Development and can be ring-fenced into separate smaller clients.

CASE STUDY 1: DATA OBFUSCATION AND CONVERSIONS

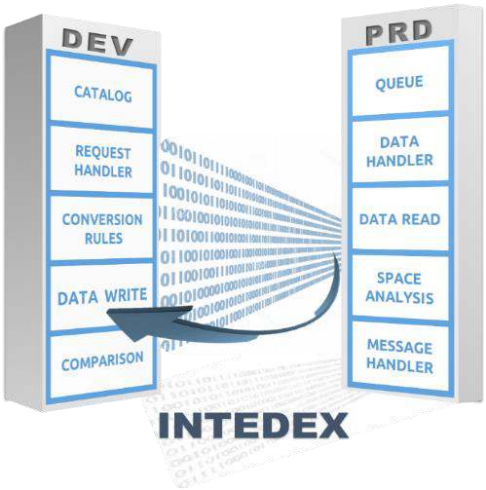
PROBLEM STATEMENT:

Primarily Intedex is used to quickly and effectively copy data between SAP systems. There are times, however, where the data requires slight manipulation before being saved into a system. This is often in the form of data obfuscation that hides the true identity of sensitive data.

This is typically an HR (Human Resource) requirement or a Sarbanes-Oxley requirement – geared towards protecting the identity of either employees or customers and vendors. While data in Production is protected by authorisations and segregation of duties, the same data is copied into Development and test systems and made widely available to the entire support team. As a result, many SAP systems are in violation of identity protection by not adjusting the data in these systems.

SOLUTION:

Intedex can manipulate data before writing to the target database. In this manipulation, simple conversion formula can be written and applied to the data. This usually takes on the form of mixing names and identification details up so that the true individual cannot be determined. A conversion rule can be defined centrally and applied to individual fields/domains if need be.



CASE STUDY 2: CLONING A COMPANY

PROBLEM STATEMENT:

Clients wishing to move data from one company code to another typically require complex data manipulation tools. Restructuring an organisation is complex and usually done through data migration techniques.

SOLUTION:

Intedex can easily read data from one company code and write data back as another company code. This requires a mass conversion to all company specific tables but is achievable with Intedex conversion rules. This is an advanced use of Intedex but not outside its limitations.

CASE STUDY 3: REPETITIVE TRAINING

PROBLEM STATEMENT:

Clients wishing to repeat training courses are faced with the ever increasing problem of creating data before each training course. This data must also be representative of the real business so that the users place the training into context with their jobs.

SOLUTION:

Intedex can read data from production but instead of writing the data to a training system, the data can be stored in an offline repository. Thereafter Intedex can rebuild the training client from the offline version. This then allows the training team to effectively reset the client before each training session and know that the specific master and transaction data will be open for processing.

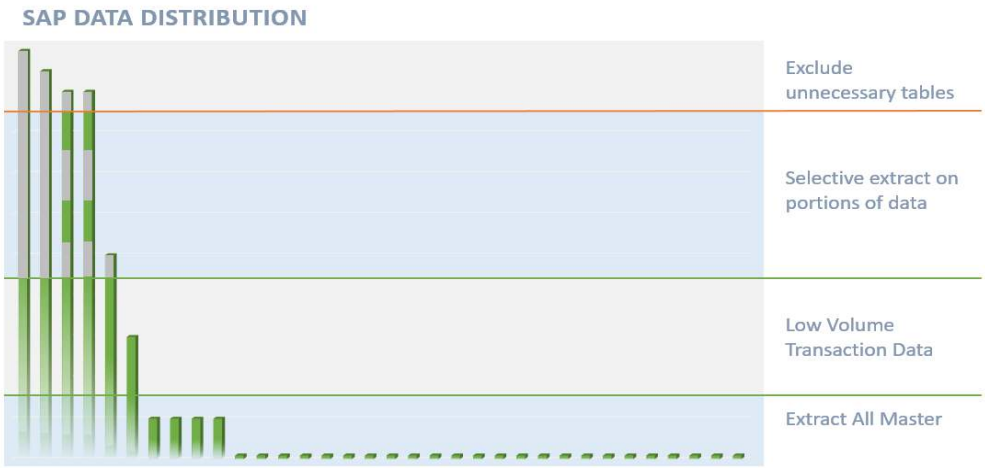
CASE STUDY 4: SIZE MATTERS

PROBLEM STATEMENT:

The concept of multiple clients across multiple systems is rapidly becoming a thing of the past as data volumes grow exponentially. SAP typically provides for client copy functionality but this is always an 'All or Nothing' approach.

SOLUTION:

Intedex can analyse the database tables in use. It can selective tables or portions of production data needed to be functional. This can reduce the size of support clients significantly as it need not contain every database tables. Large volumes database tables may not even be needed in the support systems - Change Documents, Spool Files, Rebate tables to name a few. At times these can equate for more than half of the total size. Master data usually accounts for under 20% of the total database thus allowing development and test systems to be built at a fraction of the total production size using Intedex.



CASE STUDY 5: ENGINEERING VS SCIENTIFIC

PROBLEM STATEMENT:

Many customers request a data slice that attempts to link paired documents together. While this is a possibility it is often far more complex than anticipated. It can also lead to extremely long run times that may not be necessary.

SOLUTION:

Data slice needs to be looked at as practical data but therein lies two approaches to extracting data – The Engineering and Scientific approach.

The Scientific approach - attempts to link all documents together into neat strings or document flows. While this approach makes sense for a very small number of documents it can overload the production system attempting to carefully pick the related documents for each parent documents.

Intedex does not suggest this approach – instead, this is only used to dynamically link child records/tables to parent/header records with a single document type. For instance, if we are extracting a financial journal header then we should also extract the line items for this document as well. But we suggest that the linking stays there as parent documents could lead to sales orders, HR, materials postings and a vast number of others. While Intedex does allow you to configure a relationship between different types of documents, parent-child relationships are delivered standard within a document.

The Engineering approach - suggests that complete tables are extracted where possible and where not a filter condition is applied. This does not require any relationship between tables. As discussed earlier in Size Matters – if you extract all the parent records and all the children records then no relationship is needed between the two. If practicality is needed then it may be that we extract all headers and only some of the children records. While this may leave incomplete documents the key focus is whether the core documents needed for testing are included. If the testing is purely online items then having additional header records does not matter.

Intedex offers both options but suggests a size extraction is investigated first. This means that any table under a certain size is automatically included in the extract. The investigation into the larger tables then removes unneeded tables. The remaining large tables can then be filtered with search criteria to limit the data extract to a smaller portion. If it is critical that this data is paired with other data then relationships can be activated or inserted as per the user request.

INTEDEX BENEFITS

The following outlines key benefits of Intedex. Cost and Time saving will ensure that the product has a significant ROI and will play an important role in IT.

PROJECT CLIENT STRATEGY

Allowing each team to have smaller, project-related clients for testing. Allowing for parallel and project focused development and delivery.

REDUCTION OF HARDWARE

As Production Systems expand so does the demand to expand Development and Quality Systems. Intedex can rebuild Development, QA and Training with a fraction of the Production system.

EARLY RISK IDENTIFICATION

Allows for better risk management as errors or unidentified requirements are realised earlier in the project development cycle.

TRANSPORTS REDUCTION

Unit testing in Development! Transports become more complete, fewer and have less iteration to QA.

STEPPING STONE

Many systems merely use the Development system as a brief stepping-stone to the Quality system. In fact, hardly any risk is identified in Development as fresh development is automatically moved into Test/Quality systems before adequate unit testing is done. Intedex will allow this growing trend to move back to Development where accurate master data will facilitate accurate business scenario testing without having to spend valuable time recreating these scenarios.

SELECTIVE CLIENT REFRESH

Intedex will refresh particular clients whilst leaving others alone. Projects that are not quite ready can be left intact whilst other clients benefit from fresh production data. Standard client refresh techniques often destroy the whole system during a full copy, Intedex does not. The advantage here is that certain projects in the development phase gain momentum whilst others benefit from improved testing data.

MATURE STABLE LANDSCAPE

Test/Quality systems become better at testing. Development systems become better at project construction and delivery. This is hardly achievable when Development is not refreshed at all, and Test/QA is refreshed with a destructive copy. Intedex provides a stable work environment having a marked impression on all deliverables.

PROJECT MOMENTUM

Systems left untouched or deleted create a stop-start project mindset. Certain projects may only begin after a full refresh. Each stop-start sets a project backwards as valuable time and resource is wasted. Projects that are enabled to flow deliver better quality and retain resources to see the project through to completion.

BETTER UTILISATION OF INTERNAL STAFF

Having the right data at the right time has a marked impact on resources. Without which projects often lose key resources before project completion or the project reiterates certain activities until valid data is available. Intedex allows the project to land instead of keeping it in a flight pattern for later. When outsourcing, this holding pattern certainly translates to higher costs.

EFFECTIVE RISK MANAGEMENT

Building innovative functionality to improve business demands that development landscapes are stable and accurate. It makes no sense to only realize risks after product development. Data, unfortunately, although available in abundance, can hide risks and scenarios and certainly even more so, when it does not exist within the development landscape. Intedex brings real scenarios into view, exposing projects in advance and allows innovative change to master the system rather than be a slave to it. Without comprehensive testing on realistic quantitative data; how effective is your risk management going to be? Intedex is designed to address this very issue.

IMPROVED SUPPORT AND DELIVERY

Bringing real data into support systems allows for less problem simulation, faster identification of errors and usually exposes business scenarios to projects early without risk to the project.

An enormous amount of time is spent in IT recreating scenario data to address issues or failures. Development teams cannot begin to resolve technical issues until the failing scenario has been recreated and reproducible within their landscape. Time spent trying to match an error, not only wastes valuable resources but more than doubles up the time to resolve any issue, as this time could have been spent on the solution rather than the problem.

CONSTRUCTIVE REBUILD

Intedex will synchronise the portion of data that requires refreshing. In this way, all other data remains untouched. System configuration, RFC destinations, User Masters and a host of other items usually need to be reconfigured after a system refresh. Not with Intedex. How long does a support environment usually stay unavailable as transports and configuration are reapplied? Using Intedex the turnaround time for a selective client refresh can be brought down from days to minutes.

INTEDEX FUNCTIONALITY LIST

- Fast and easy setup, implementation and execution.
- Full awareness of in-house development and industry solutions.
- Analysis tools providing comparisons between systems; giving a clear picture of the data volumes and the type of data available for transfer.
- Categorization and management of data by application area and data class i.e. Master Data, Transaction data, User data, Configuration etc.
- Project Subset management providing the means to manage data at a smaller more applicable project level.
- Reusable data transfer templates.
- Advanced Data Synchronization Engine.
- Status monitoring and fault agent reporting, providing real-time status and error control.
- Remote data monitoring.
- Portability of templates and configuration between systems.
- Write rules to control how data is written to target systems.
- User-friendly interfaces facilitating quick training and rapid solution development.
- Transaction/Volume based; technically capable of managing large data volumes.
- Data Filters allowing for data to be sliced or reduced to fit smaller systems.
- Data Conversions - user defined routines are provided to extend Intedex to suit customer eccentric activities such as data conversion, validations or data corrections.
- Project gearing – enabling parallel project client structures.

SUMMARY

- Lower risks with better risk management
- Lower support cost with faster delivery to business
- Improved utilisation of Staff and System Resources.
- Reduction of Transports and improved controls on delivery to Production.
- Mature Professional System Landscape
- Improved project development flows with better testing standards

LICENSING

PRODUCT TRIAL

A free trial of Intedex is offered to clients for a limited and agreed time period – this is usually 1 month but not longer than 2 months.

Intelligens reserves the right to make adjustments at their discretion to the product in light of findings from the trial period. These changes are in the Intelligens system and can be adopted into the customer's system at their request. Time and Materials may be charged if the customer requests changes to the product that are deemed as customer specific enhancements.

LICENSING AND ACTIVATION

A single Site license is granted per Production Database Server on a "License to Use" basis.

Intedex is copy protected and enabled via an Activation Key. This key is issued by Intelligens and enables the use of the product as per this Agreement for an agreed period of time.

All Intedex components check the validity of the activation key against the SAP installation number provided by the client. Intedex will warn if the license is about to expire. It is against the SAP Installation number that the Reflex license is deemed.

DISCLAIMERS

In addition to other disclaimers mention in the quotation and agreement documentation, it is the customer's responsibility to test and approve the said product before its application to productive or dependable data. None of the above said agencies or individuals will be held accountable for misuse or unapproved use of the said product. The said product may not be resold or given to another party without consent from Intelligens IT Solutions.

CLOSING

Most SAP Customers still support a Development environment with fragile, non-representative master data. Until now, it was not possible to easily update the Development system with master data from Production. At least 50% of an analyst's time is spent trying to repair or construct data to accurately simulate Production. This has an extreme impact on productivity and business service levels. If this can be rectified, the benefits are as extreme.

Intedex is installed and set up within minutes. With a rapid installation and analysis unique to your system, Intedex is capable of reading data from your Production system and writing data into your Quality and Development systems. Data Models can be built to represent specific project/test needs and these models can then be used on a regular basis to effectively and efficiently refresh data. One such model could represent all Master Data that can then be copied within a 2-4 hour window without affecting current development within the target systems.

Once loaded, the ROI is immediate. The exact Customers, Vendors, Materials etc reside in both systems with the same numbers. Problems in Production are now immediately replicated in Development allowing visibility and rapid resolution boosting service levels considerably. Analysts now have more time to enhance the system as less time is taken fixing issues.

Intedex is used to refresh the master data in Development on a regular basis. This ensures that changed master data is realigned, and new records also inserted.

Production master data in Development serves to support test and training script development. When transported, the master data aligned to the scripts do not need to change.

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Primarily the objective is to reduce risk, increase the speed and quality of delivery and support, reduce cost and capitalise of the investments already made in the support landscape.