

Application Landscape Rationalisation in Post-merger Integration Projects



PwC Point of View



Introduction

In many modern businesses, the enterprise application landscape serves as a key asset for delivering customer-facing services and products. At the same time, it also offers great potential for cost optimisation in the post-merger integration process (PMI).

The diagram on the right shows the general benefits of application rationalisation. Our experience has shown that most post-merger integration projects have a sharp focus on three objectives:

1. **Reducing costs in IT** by decreasing maintenance and licensing costs, or freeing up resources (e.g. for digitalisation initiatives)
2. **Harmonising business processes** between the legacy organisations
3. **Consolidating technology and skills** for the joint enterprise around fewer standard technologies

This white paper will outline our approach to application landscape rationalisation, provide insights on key success factors and describe how to leverage tools for support.

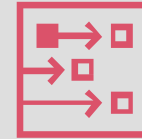
General benefits of application rationalisation



Reduced costs



Increased agility



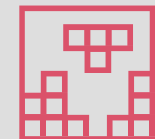
Harmonised processes



Reduced technical debt



Focus on technology and skills



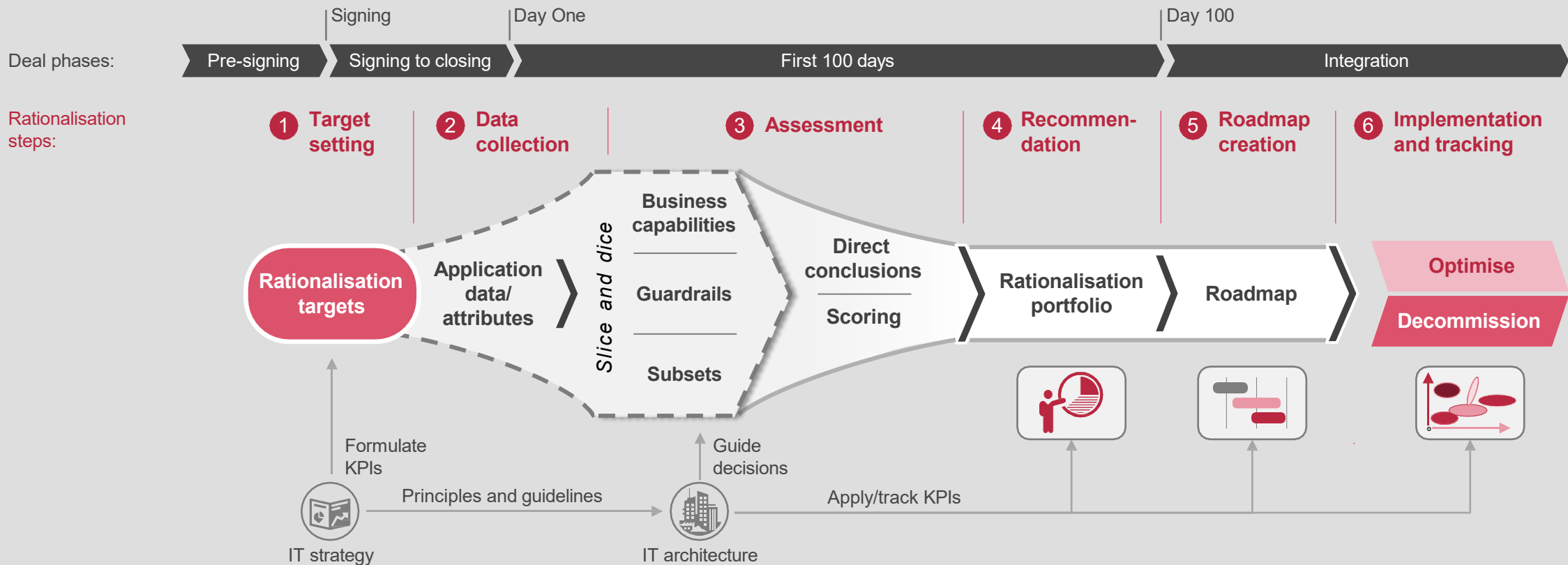
Simplified data models and integration

Most common benefits aimed for during PMI

Our approach to application landscape rationalisation

PwC's approach to post-merger integration is structured alongside the phases of the deal (see diagram below). During each phase, a set of activities is required to prepare, plan and implement successful application landscape rationalisation.

Most of the work required falls within the scope of enterprise architecture (application landscape planning), and should therefore be closely guided and supported by your architecture function.



1 | Target setting

The process starts with setting the right rationalisation targets to aim for. These should be derived from your specific integration objectives and general IT goals, or they should utilise industry benchmarks on application costs. This will usually involve a mix of quantitative targets (e.g. reducing total cost of ownership of applications or consolidating your technology portfolio) and qualitative goals (e.g. enhancing business collaboration).

We have found that clear management guidance is crucial during this first step. Therefore, we recommend setting top-down consolidation targets and breaking them down into sub-targets for the various application domains. Doing this the other way round does not work well in most organisations: trying to come up with rationalisation targets purely based on bottom-up analysis is time-consuming, and the highly granular discussions required can easily lead to fatigue in the organisation.

Target setting

Complexity has multiple aspects. Set and clearly communicate the targets you'll be using to measure the success of the initiative.

Number of applications

Annual run costs

Number of vendors

Business satisfaction

Average usage duration of applications

Commercial off-the-shelf vs. custom-built

Number of different release versions

Adherence to architecture principles

2 | Data collection

Optimising your application portfolio is a far-reaching endeavour which will usually impact both customer and supplier relationships as well as your internal IT organisation. Decisions should therefore be made based on objective recommendations, which in turn require solid information. Getting this right is particularly important because you'll be taking decisions across two or more separate legacy application landscapes, each with its own peculiarities.

Our experience has shown that the following steps are key to successful data collection:

a) Specify key application data

Based on your rationalisation targets, you need to identify the key information needed for decision-making. The information required will vary depending on whether you are focusing on reducing costs, harmonising technology or improving satisfaction in the business. Our advice is 'think big, but start small': it's usually best to focus on no more than 20 application attributes, covering key areas (see diagram).

b) Select the best data source

With two or more legacy organisations, application information is usually hosted across many data sources – for example, enterprise application repositories, configuration management databases, IT service management applications, contract management systems, or controlling databases. In some cases, the latest or most accurate information is held by application managers or owners within the organisation. The challenge in this step is to ensure that the master source chosen for each data point is the one that contains the most accurate and up-to-date information.

Key application attributes



Identification: application ID, long and short name, description



Classification: lifecycle status, business criticality, compliance relevance



Portfolio alignment: business and technology portfolio, standard vs. custom



Ownership: contact details of business owner and application manager



Usage: number of users, geographical/organisational scope of usage



Costs: total cost broken down into licensing, operating, support and maintenance costs



Underlying technology: technology stack, hosting model, provider

2 | Data collection (continued)

c) Harmonise definitions

You will find that definitions and use of terms will vary between the legacy organisations and throughout their information repositories. To make the data directly comparable, you need to come up with a harmonised set of terms, usually beginning with the question ‘what is an application?’ Is it each piece of software in use, or do you separate business applications from their underlying platform or system software? Consistent terminology is also necessary for other pieces of information, such as life cycle status or cost definitions.

d) Create a consolidated application repository

Based on your work up to this point, you can now combine the data from the legacy application landscapes for the various data viewpoints. To do this, you can either leverage an existing enterprise application repository, or you can create an independent database to cater to the specific needs of your rationalisation analysis – though this has the downside of requiring data migration to your target application repository at a later date.

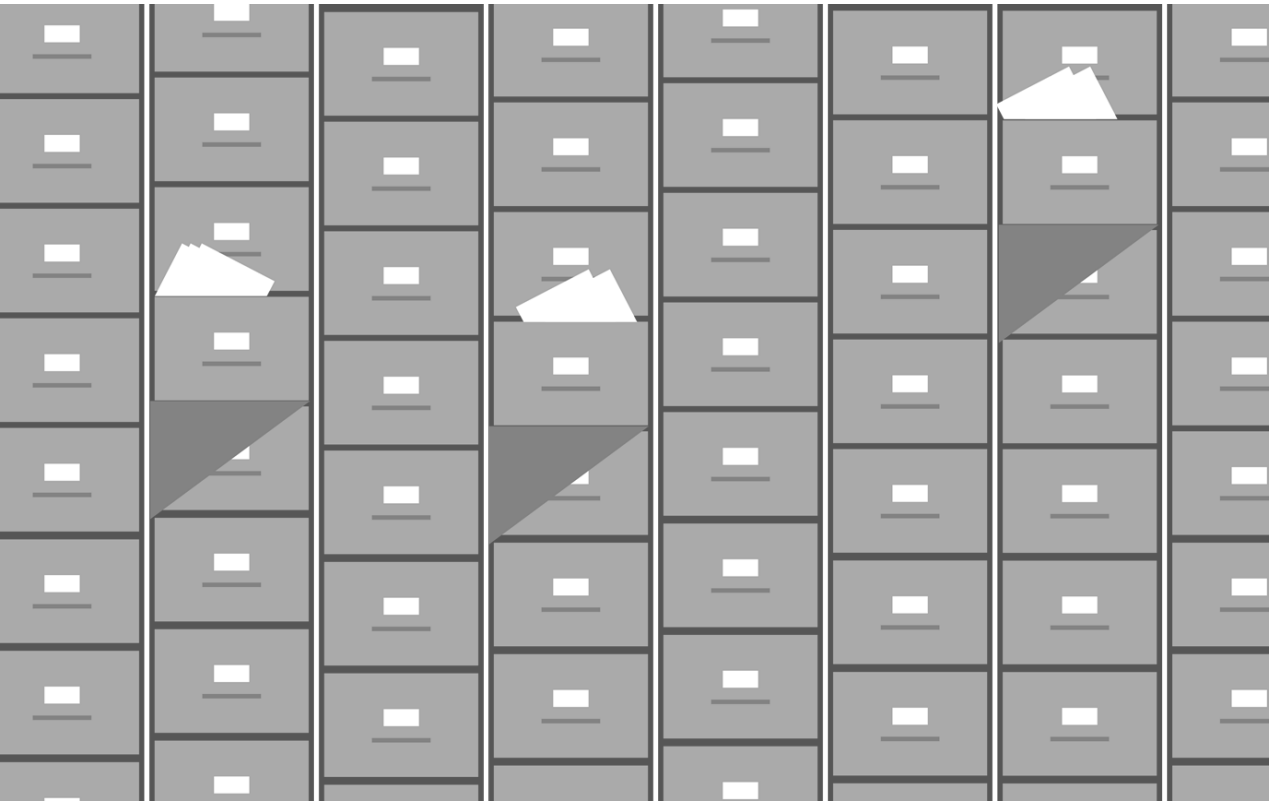
Modern enterprise application repositories such as LeanIX® or HOPEX provide a ready-to-use data model, interfaces for importing and exporting data, data quality reports, and surveys for distributed data collection.

e) Collect/update key application data

Depending on your data requirements, you will now either need to update your consolidated application attributes, or gather additional information to close gaps. In most cases, not all data is up to date – cost information in particular requires frequent, dedicated data collection. Licensing costs and other recurring costs (e.g. from managed services or support contracts) can be obtained from your vendor management team. You may need to work with application managers and key operations stakeholders to obtain information on operating costs.

f) Map applications to business capabilities

Mapping applications to business capabilities has proven to be a useful means of identifying redundancy and assessing the importance of applications. This also provides common ground for the legacy application landscapes, as it allocates application assets based on a harmonised view of the business.



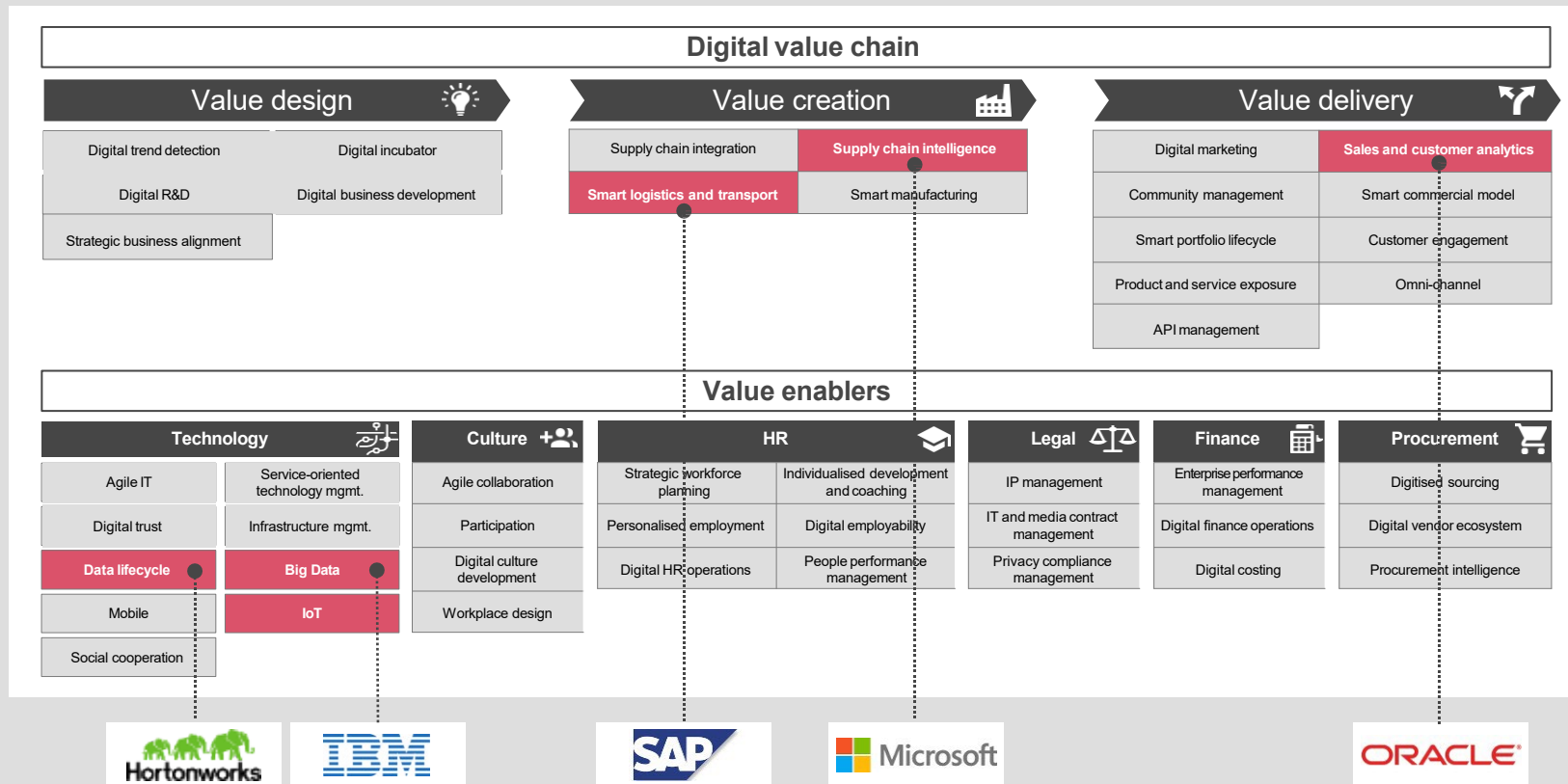
2 | Data collection (continued)

Creating a capability model from scratch can be too time-consuming to carry out, once you've started a post-merger integration project. To accelerate this step, you should leverage existing or reference capability models for your industry.

Having your applications mapped to the business capabilities they support, allows you to quickly:

- Identify areas where you have redundant applications
- Locate areas where you can expect the largest savings
- Identify areas of business differentiation so that the joint company can treat applications in these areas differently from supporting ones

PwC's digital capability map



2 | Data collection (continued)

The described consolidation of application information is very data-heavy, requiring inputs from many different sources and contributors to be connected and aligned. Regular data updates and reports are required throughout the process – this is where tools come in handy.

Within our projects, we have found that lightweight and flexible SaaS enterprise application repositories are very effective at supporting the data collection activities described. They quickly provide one central database, with decentralised and distributed data collection capabilities.

Example application data overview in LeanIX®

Name	Type	Lifecycle: Cu	Business Criticality	Functional Fit	Technical Fit	Business Capabilities: Display Name	Tags: Region	Data Classification
Central ERP	Application	Active	↑↑↑↑ Mission critical	★★★★☆ Appropriate	★★★☆☆ Unreasonable	Logistics Master Data Management	Global	DC2 - Confidential - restricted
Central Finance	Application	Active	↑↑↑↑ Business critical	★★★★☆ Appropriate	★★★☆☆ Unreasonable	Finance & Administration	Global	DC3 - Highly Confidential
CRM Americas	Application	Active	↑↑↑↑ Business critical	★★★★☆ Appropriate	★★★★☆ Adequate	Customer Interaction Customer Relationship Management	Americas	DC2 - Confidential - restricted
CRM APAC	Application	Active	↑↑↑↑ Business critical	★★★★★ Perfect	★★★★☆ Adequate	Customer Interaction Customer Relationship	AsiaPacific	DC2 - Confidential - restricted
CRM EMEA	Application	Active	↑↑↑↑ Business critical	★★★★☆ Appropriate	★★★★★ Fully appropriate	Customer Interaction Customer Relationship	Europe	DC2 - Confidential - restricted
Warehouse Mgmt. US-Hub	Application	Active	↑↑↑↑ Mission critical	★★★★☆ Appropriate	★★★☆☆ Inappropriate	Logistics / Inbound Processing Logistics / Outbound Processing Warehouse Management	Americas	DC1 - Internal
Warehouse Mgmt. US-Site A	Application	Active	↑↑↑↑ Mission critical	★★★★☆ Appropriate	★★★★☆ Adequate	Warehouse Management	Americas	DC1 - Internal
Warehouse Mgmt. US-Site B	Application	Phase out	↑↑↑↑ Mission critical	★★★☆☆ Unreasonable	★★★☆☆ Unreasonable	Warehouse Management	Americas	DC1 - Internal

3 | Assessment

Each of the legacy application landscapes can comprise hundreds or thousands of individual applications. Because of this, it is important to focus on areas where the largest numbers of redundant applications exist and where the highest potential for rationalisation is expected. This is where mapping and categorising applications really comes into its own. For example, you can create an application heat map (right) to highlight business domains with high redundancy and potential for consolidation.

Application/capability heat map

Business capability		Applications per region		
Level 1	Level 2	Americas	APAC	EMEA
Customer relationship management	Opportunity, order and sales mgmt.	7	8	12
	Customer service	4	5	7
	Retention and loyalty programmes	3	4	5
Financial management	Accounting and billing	9	11	15
	Treasury	3	5	6
	Financial planning and forecasting	14	12	21
	Management reporting	8	16	29
Inventory management	Inventory planning and management	2	4	5
	Distribution management	1	6	4
	Warehouse management	8	20	13

Typical rationalisation potential

	Business domain/capability	Rationalisation potential	Levers for harmonisation
Savings potential	Corporate reporting	> 50%	<ul style="list-style-type: none"> Common KPI framework Common definitions
	Corporate finance	> 40%	<ul style="list-style-type: none"> Legally defined Low regional variance
	Controlling		<ul style="list-style-type: none"> Common KPIs Comparable metrics
Operational risk	IT governance	> 30%	<ul style="list-style-type: none"> Operational efficiency Look for synergies
	Marketing and sales		<ul style="list-style-type: none"> Best customer service Response time/quality
	HR		<ul style="list-style-type: none"> Regional synergies Local legislation
	Site operations	~ 10%	<ul style="list-style-type: none"> Best site fit Operational efficiency
	R&D	~ 5%	<ul style="list-style-type: none"> Research intelligence Product/service specifics

Our experience has shown that some business domains are more likely to offer high potential savings through application rationalisation than others. This potential often arises in domains which are or can be highly standardised, as these areas can be more easily harmonised across the legacy organisations. It also arises in domains that are less integrated with critical operational processes (e.g. manufacturing or warehouse management), as this lower level of integration reduces the risks inherent in the consolidation process. We typically expect lower rationalization potentials when examining creative and inventive tasks.

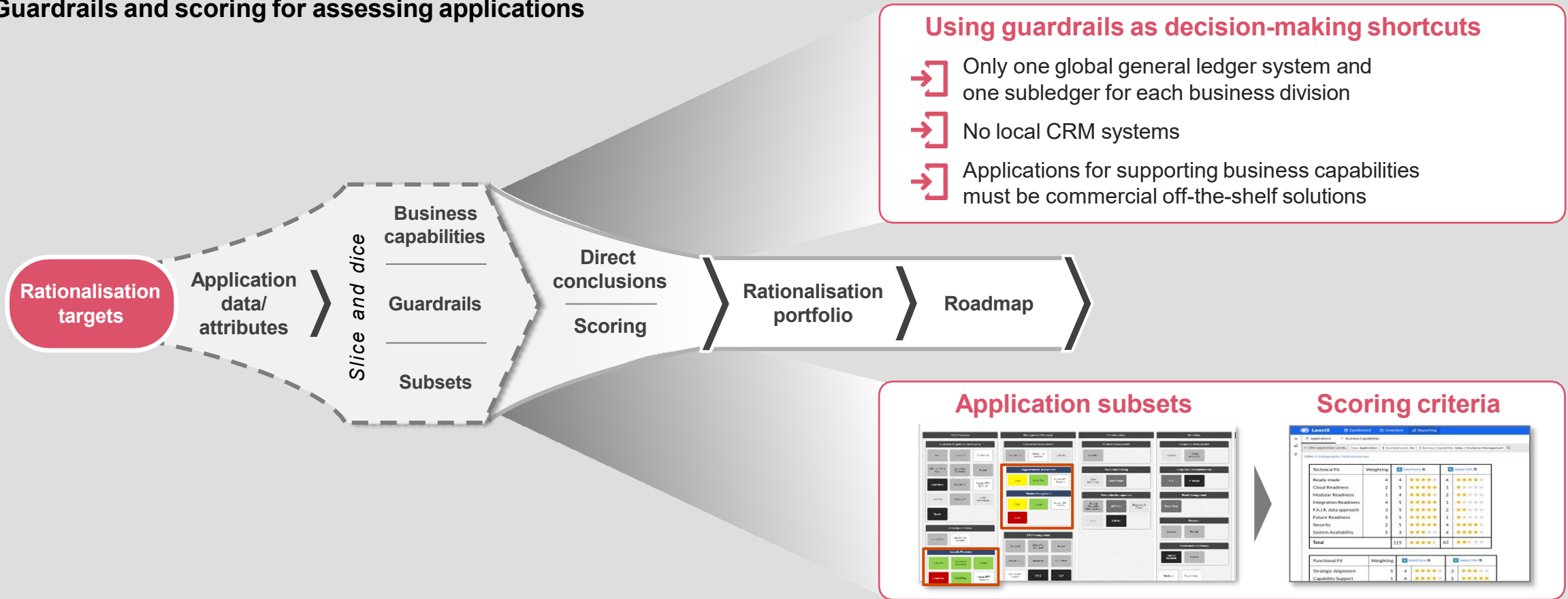
The ranking on the left shows business domains in terms of their typical rationalisation potential, although actual figures may vary depending on your specific industry.

3 | Assessment (continued)

Once you've identified areas which offer high potential for rationalisation, you need to dive deeper to decide which applications to keep and which to retire.

Guardrails can be used to shorten this decision-making process. The general approach is to draw conclusions based directly on these guardrails and generate scores for applications only where absolutely necessary (see diagram).

Guardrails and scoring for assessing applications

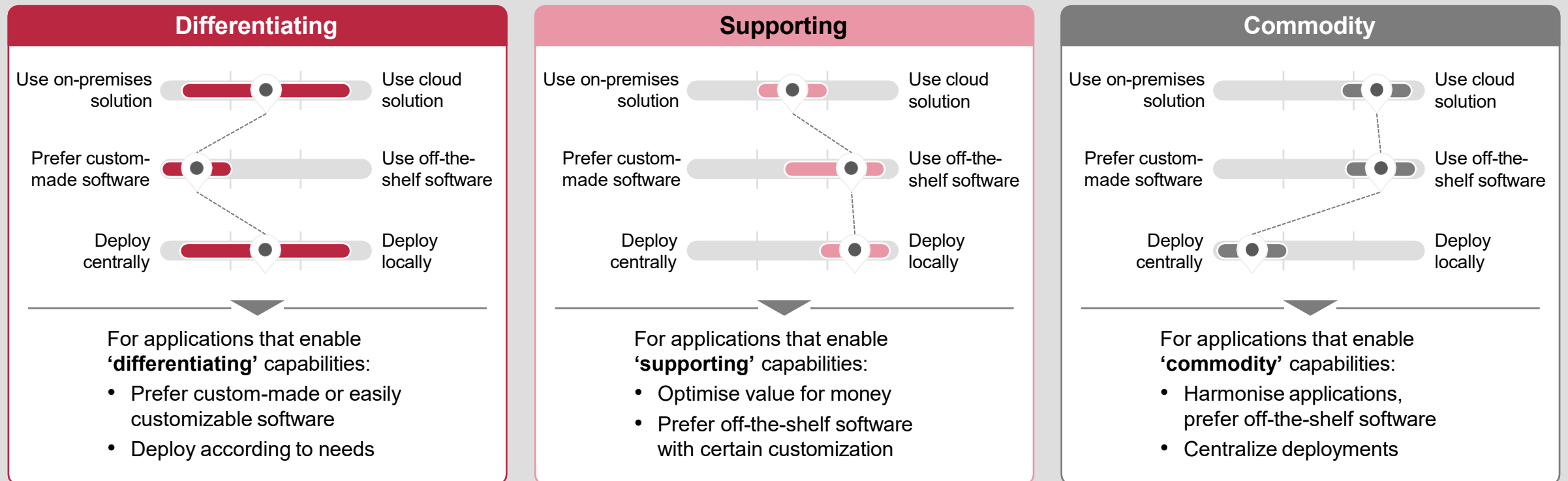


3 | Assessment (continued)

Having a strong IT strategy with clear guidance can be a great help in accelerating decisions on application rationalisation. Depending on the IT capability in question, you can apply different guardrails to decide which types of applications fit your strategy for the joint company and which do not.

You don't always need rigid guardrails – you can also treat them as general assumptions. This means that application owners then have to justify why a guardrail should be overruled to keep a particular application in place.

Applying guardrails to different business capabilities



3 | Assessment (continued)

Individual scoring is needed for subsets of applications where guardrails cannot be used for making decisions on rationalisation. This method uses a catalogue of scoring criteria to compare different applications which support the same business capability, and ultimately decide which applications should be retired.

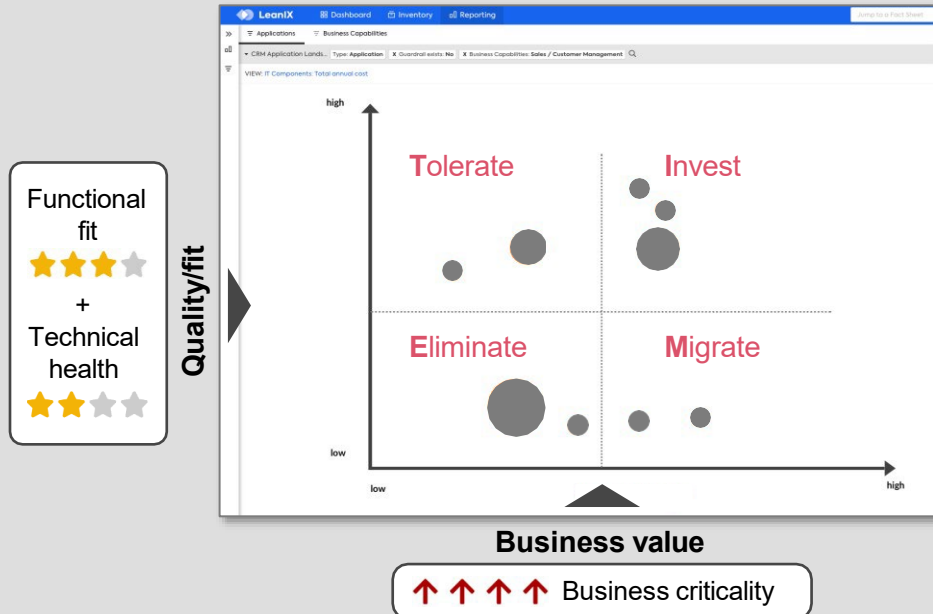
The scoring can be performed by a group of enterprise architects from the legacy organisations. Enterprise architecture tools hold the one-version-of-the-truth data collection and support the transparent and fair analysis and assessment of the collected information.

Application scoring criteria in LeanIX®

Technical Fit	Weighting	SalesForce	Siebel CRM
Ready-made	4	4 ★★★★★	4 ★★★★★
Cloud Readiness	2	5 ★★★★★	1 ★★☆☆☆
Modular Readiness	1	4 ★★★★★	2 ★★★☆☆
Integration Readiness	4	5 ★★★★★	1 ★★☆☆☆
F.A.I.R. data approach	3	5 ★★★★★	2 ★★★☆☆
Future Readiness	5	5 ★★★★★	1 ★★☆☆☆
Security	2	5 ★★★★★	4 ★★★★★
System Availability	5	3 ★★★☆☆	4 ★★★★★
Total	115	★★★★★ 1	★★★☆☆

Functional Fit	Weighting	SalesForce	Siebel CRM
Strategic Alignment	5	4 ★★★★★	3 ★★★☆☆
Capability Support	1	4 ★★★★★	5 ★★★★★

Creating a rationalisation portfolio in LeanIX®



4 | Recommendation

To finalise your rationalisation portfolio, you need to consolidate your results – from both your guardrail-based and your scoring-based assessments. Gartner’s TIME quadrant gives a good indication of which applications are suitable candidates for elimination and which are worth investing in.

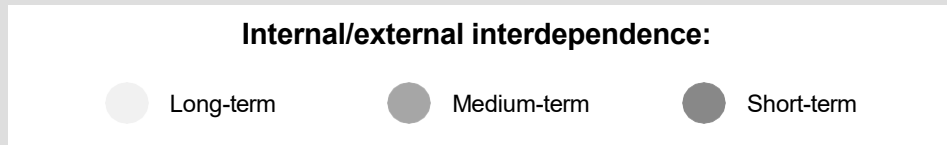
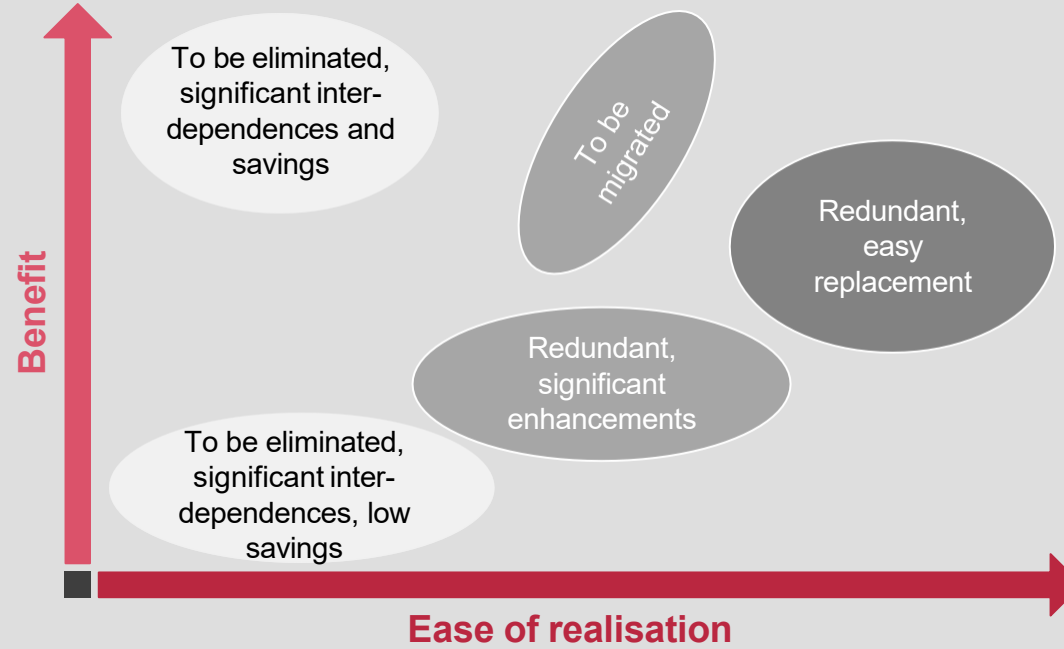
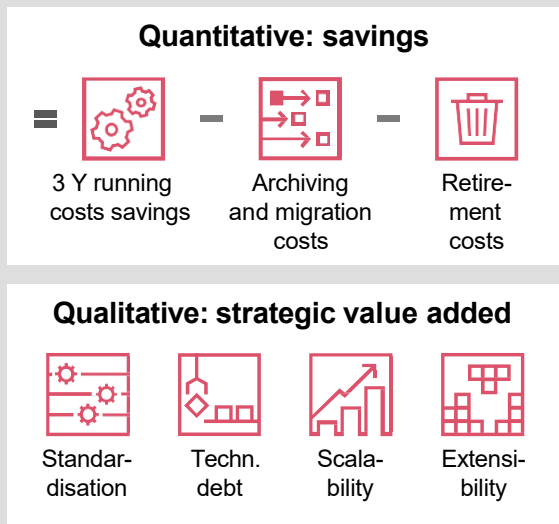
The main outcome is to identify which applications should be shut down, and which applications will require what kind of rework (left). This information should be used as input for your roadmap.

5 | Roadmap creation

The final step of rationalisation planning is to create the decommissioning roadmap. As the number of applications within the scope of this roadmap is usually high, we recommend bundling applications in measure clusters (e.g. according to business capabilities or interdependence involved). A business case needs to be calculated for each cluster, including estimates of the financial investment required for archiving, data migration, shutdown or technical reworking.

These clusters can then be prioritised on the roadmap timeline according to their benefits and ease of realisation. The benefits are measured both quantitatively in terms of cost savings, and qualitatively in terms of strategic value added.

Allocating measure clusters on the roadmap



6 | Implementation and tracking

Depending on the size of your rationalisation portfolio, you might need to set up a dedicated decommissioning programme. Retiring or reworking applications will form parts of several projects.

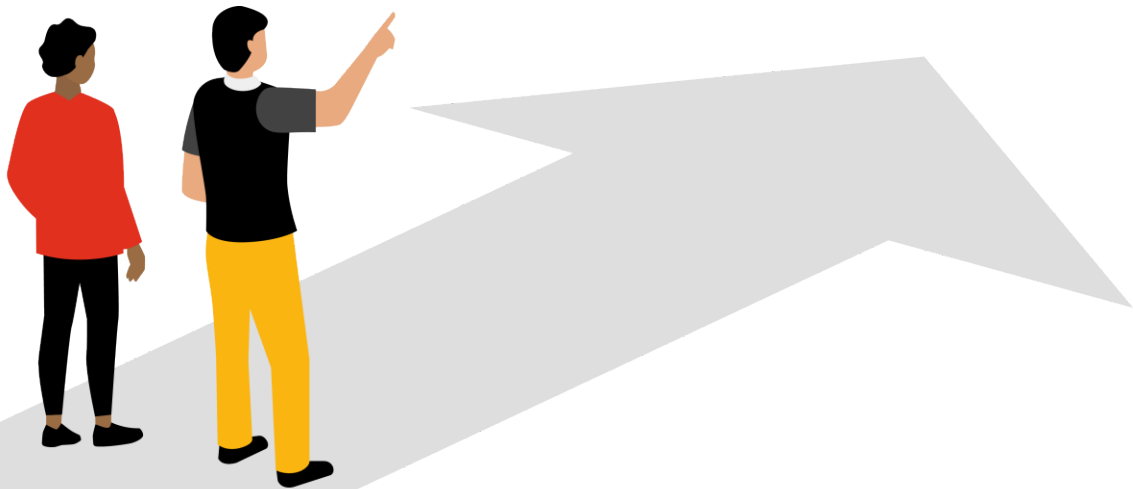
Within these projects, you need to plan the following details:

- Selecting the target-state applications which will replace the decommissioning candidates, leveraging blueprints or common reference architectures for specific business domains
- Defining your migration strategy, based on common migration patterns aligned with your corporate data preservation strategy
- Agreeing a training plan for each user group and application in the cluster to be decommissioned

To allow rapid implementation of your rationalisation roadmap, we recommend using the following enablers:

- **Standardise your use of common archiving and migration capabilities**
Based on regulations and your individual business requirements, you should be able to define a data retention strategy for different categories of business data. You can then use this strategy to draw up overall rules for data archiving in these categories, and provide common technical solutions for data storage and migration. This will enable you to ensure compliance throughout your various rationalisation projects and avoid project teams having to work out solutions on their own.
- **Use an application decommissioning factory to achieve synergies**
If you have a large number of business applications pending retirement, you might want to apply a factory approach to leverage economies of scale. A decommissioning factory applies a standardised, proven approach to efficiently prepare and execute application shutdowns. You can even outsource this task to your preferred application service provider.

Experience has also shown that it is a good idea to appoint application decommissioning leads. These leads are responsible for the rationalisation sub-portfolios in certain business domains, and they take ownership of the savings targets and rationalisation budgets. During the implementation phase, you will also need a rigorous savings tracking system to record all cost savings achieved, compare them to your savings plans, and analyse deviations from these plans.



Four lessons learnt on application rationalisation



Management sponsorship

Making decommissioning decisions can be hard. They can result in people losing their jobs, and you might have to defend your decisions against a strong IT lobby or other legacy teams. Hence, you should ensure:

- Buy-in from senior management when taking unpopular decisions
- Use of guardrails and standards to provide an objective foundation for decision-making



Quantified view

Consolidating legacy application landscapes affects business processes, teams, and customer or supplier relations. Therefore, these changes need to be based on a solid, objective and data-driven decision-making framework:

- Clearly lay out and communicate decision criteria
- Define clear decommissioning objectives and KPIs, and link decisions to these objectives
- Leverage a shared application repository



Top-down approach

Although a certain amount of information about the applications is needed when making rationalisation decisions, it's easy to get lost in the details. Furthermore, bottom-up assessments by application owners tend to be biased. Hence we recommend:

- Starting by setting top-down targets, before using bottom-up views to validate decisions
- Focusing on a few key application attributes based on your integration targets



Prioritise execution

Typical IT landscapes consist of hundreds if not thousands of different applications. Even if you have taken top-down decisions, consolidation will usually take 1–2 years. To ensure success you should:

- Use capability mapping to focus on strategic areas, or areas with the greatest potential savings
- Break up the rationalisation work into manageable domains and appoint decommissioning leads

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