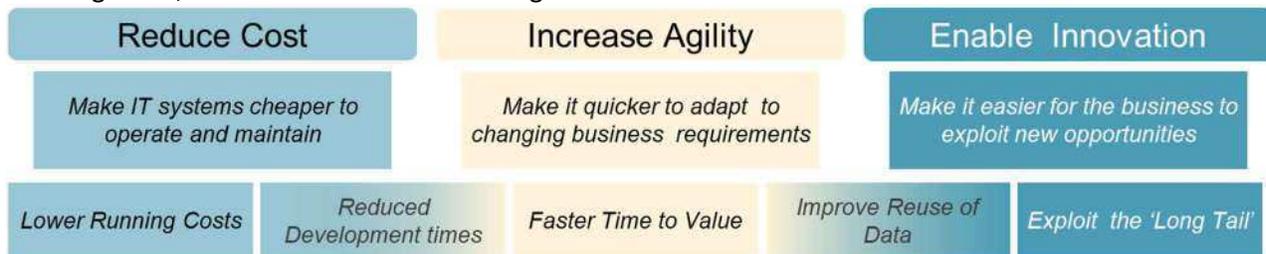


Migration Planning with Metadata Automation & Analytics

Drivers for Migration - Data Silos become bottleneck preventing realization of data driven objectives

Many companies are making digital transformation a priority with ambitious goals for creating high value outcomes using data and analytics. Too often, there is a large gap between the maturity of data management and those ambitious goals. Too many times, the data assets are fragmented in silos, which have high TCO, and constraint efficient changes and innovation.



All companies need to evolve their data architecture. Making changes to the architecture will require different size of migrations. Evolving the architecture with migrations may have various drivers:

Silos have high TCO

- IT is spending a large portion of their budget in maintenance of connections between silos
- Slow progress creates more silos – Shadow IT
- Business spends a lot of effort in reconciling data between silos to meet regulatory requirements and to drive company performance

Silos constrain ability adapt to changes

There is a high pressure - despite high cost & risks - to make changes data silos & connections due to:

- Mergers and acquisitions
- Re-organization
- Globalization
- Regulatory requirements
- Deploying new products (SW, HW & Data), channels & markets
- Leveraging new technologies and platforms – like Cloud, AI
- Lack of competencies to maintain legacy technologies
- Digitalization & analytics strategies

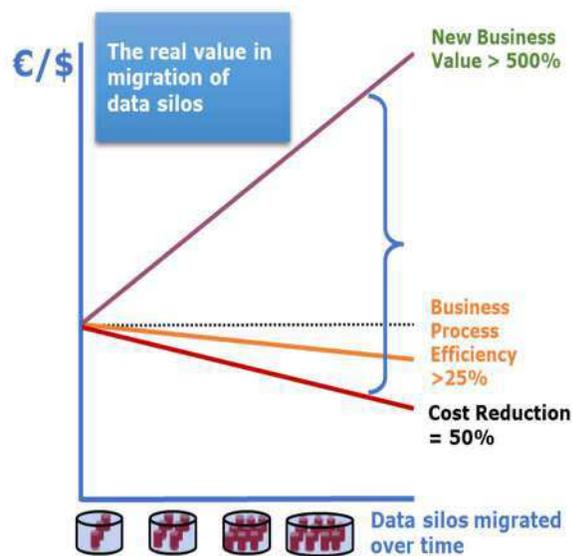
Silos constraint Innovation

- Inability to find, understand & trust data make business create new silos rather than reusing existing data
- Inefficient siloed experiments which are hard to industrialize and scale
- Slow progress on strategic objectives
- Silos require deployment to heterogeneous technologies and environments

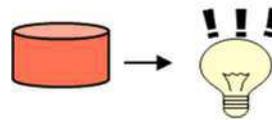
Migration Business Value

Business value opportunities from migration and integration of data silos outweighs cost savings and business process improvements significantly. This is why it would be beneficial, if a migration would have a clear business objective. As a result of a migration business should get a new or clearly improved business capability.

Doing migration solely with cost savings mindset may be questionable as then IT would be spending resources into migration with limited additional value to business. At the same time there could be other, more valuable business opportunities waiting for IT to find resources for.



New Business Value

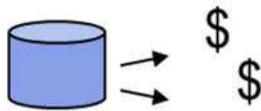


Identified new insight and value currently difficult or not possible to realize

- Improving agility – rapid changes
 - Fast time to solution
 - Fast response to changes
 - Rapid time to decision
- Enabling strategic objectives
 - Increase business value
 - Single source of truth
 - Cross function and process visibility
 - New business insights

Reducing Business Inefficiencies

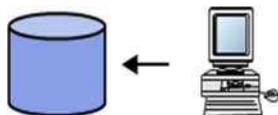
Cost of unproductive data distribution/ movement (human resource), latency, and management. Business impact of reducing data replication and complexity.



- Data redundancy
- Data latency
- Data inconsistency
- Scattered management of business rules
- Inability to find, understand, manage & (re)use data

Reducing Costs

Cost to manage legacy environment including maintenance of connections between silos



- data movement
- data synchronization
- data reconciliation
- system administration
- system maintenance

Cost Avoidance

Migration to a new platform may enable to avoid cost of planned technology refresh or maintenance of a legacy platform. It may be hard to find competent resources for very outdated technology, which means that the costs are high.

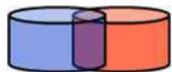
Migration Costs

Full cost of migration effort, based on the chosen migration approach



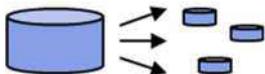
- **Cost of migration plan** - environment discovery, migration scope & effort planning and change impact analysis
- **Cost of new architecture design** - depends on the chosen approach
- **Cost of the new platform** purchase and installation
- **Cost of conversion** - 1:1 migration means that all table definitions and code have to be converted to match the requirements of the new platform.
- **Cost of optimizing performance** – It is not certain that the same code will perform on the new platform as well as on the original platform. Improving performance may be one of the drivers for the migration also. This means that 1:1 migration is not exactly true.

Migrating overlapping or duplicate data may reduce a big portion of the cost savings. This that can be avoided with the right choice of migration approach



- **Cost of moving data** - All data is moved from one platform to another, which may be inefficient because data may be overlapping, inconsistent

Managing dependencies - Effort and cost savings to redirect dependent downstream applications to reuse data



- **Cost of migrating dependent technologies** – Applications that are migrated belong to an integrated ecosystem which includes dependencies that need to be managed. Migrating a DW into cloud will demand that also the related DI tool is migrated as well.

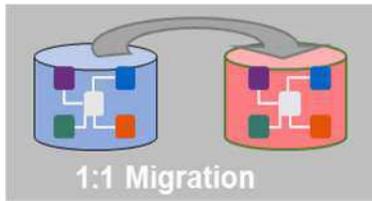
Migration Approaches

The choices between the approaches depends on

- business objectives that are driving the migration
 - cost, time & performance pressures
 - level of integration
- the “health” of data assets in the legacy environment
- architecture objectives
- regulatory objectives

1:1 Migration - "Fork Lift" – "Lift & Shift"

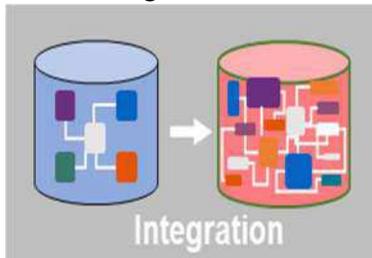
Objects are migrated "AS IS" from the current environment to the "TO-BE" environment.



- o Used for fast migration and potential cost savings from re-platforming
- o Provides the technically easiest migration path to a new platform
- o Minimal impact to existing users of the platform
- o Used in cases where the "health" of data assets in the legacy environment is not too bad
- o Mixed use: Used for applications that are used in a silo and have no synergy with existing data in To-Be environment.

Integration

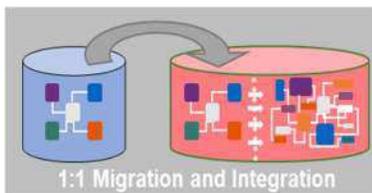
Data is integrated for reuse using common data definitions & unified data.



- o Used when the migration is driven by creation of new, integrated business capabilities
- o Creates sustainable architecture & transparency and aligns with regulatory requirements
- o It helps to reduce cost, increase agility and makes it easier for business exploit new opportunities.
- o Mixed use: Used for those applications that have a synergy with the existing data in To-Be environment

Evolution

Combination of 1:1 Migration followed by Integration



- o Used in the cases where there is a technical, cost or time pressure to eliminate a legacy platform, but also new, integrated business capabilities are needed
- o Eliminate the overhead of managing multiple systems
- o Increase business benefits & capabilities over time
- o Mixed use: Used for applications that don't have high priority for integration

1:1 Migration Approach Considerations

When the legacy platform is outdated and runs out of warranty and support, 1:1 migration to cloud seems like a promising opportunity. This approach is widely used, but really it should be applied selectively or there should be a plan to continue with an Evolution approach.

1:1 Migration has a lot of cons:

- Data remains in silo's
- Does NOT unify architecture or data
- Does NOT improve regulatory compliance
- Does NOT bring any new functionalities to the users

When the “health” of the data assets in the legacy environment is bad one could ask: What value does it bring to move a “data spaghetti” from one platform to another?

- This migration is NOT always cost efficient as the we are migrating overlapping and redundant data
- We have seen that 17 applications out 21 included sales data. Do you want to migrate sales data 17 times, or would it be better to do it just one time?

Challenges with Manual Migration Planning

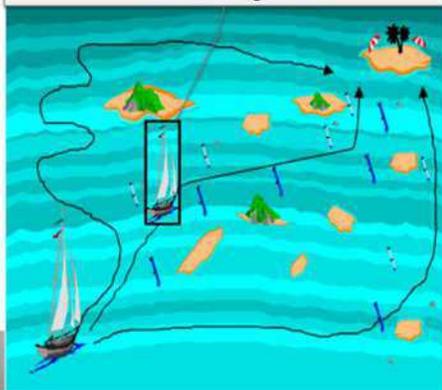
Migrations require a solid plan that is based on good understanding of the data assets & solutions to be migrated. Manual migration planning has the following challenges:

- **Dependency on a few knowledgeable experts - resource bottlenecks**
 - Very often legacy environments are old – even decades old – and not well documented
- **Slow progress – hard manual effort**
 - Architecture has evolved over the years & often with inability to reuse old data and code
 - Transformations are scattered to multiple places and dependencies are not known
- **Outcome - Inaccurate, non-auditable, non-repeatable & outdated already when finished**
 - Due to complexity, time and resource constraints manual migration plan is likely to have a lot of pitfalls

EIIG Enables automated fact-based Migration planning

EIIG provides fact-based evidence of the actual architecture through 45+ technologies

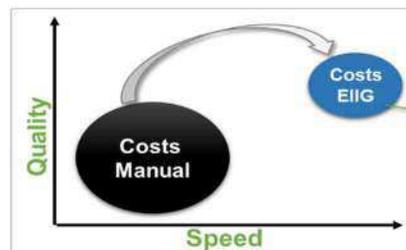
Stay on the course & avoid hitting the rocks
Know always where you are and where you need to go



To-Be

As-Is

- **EIIG provides an accurate & auditable architecture blueprint** - maintained through migrations with metadata automation
- **EIIG automated data lineage** highlights the dependencies and can be used for **accurate change impact analysis**
- **EIIG reduces risks, costs and time to value** - Enables small, reliable & frequent changes



- Automated**
- Low SME dependency
 - Short term project
 - Accurate
 - Auditable
 - Repeatable
 - Scalable

Case example – Manual vs. Automated Impact Analysis

Manual Impact Analysis

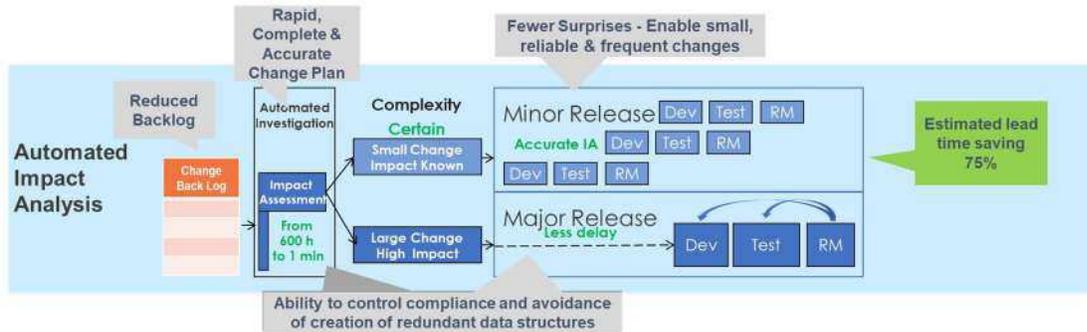
In one company manual change **impact analysis** took in average 600h

As a result:

- **There was a long backlog of changes to be analyzed**
- **Manual impact analysis was inaccurate & causing too many risks**

- **Migrations were inefficient** - Even the small changes were hard to realize because of the surprises found later in development
- **There was a long lead time** - All potentially high impact changes had to be scoped into major releases, where it was possible to do thorough testing of the changes

Automated Impact Analysis



After this company implemented an integrated metadata repository, they could do similar kind of impact analysis in **less than 1 minute with 100% accuracy**

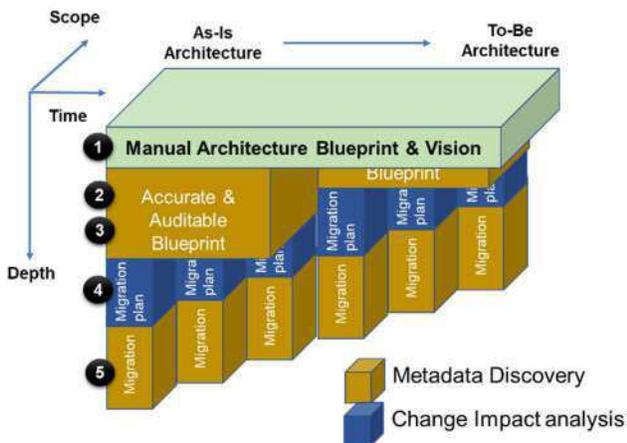
As a result:

- They were able to **reduce the backlog of changes** dramatically.
- **Fewer Surprises - Enable small, reliable & frequent changes** delivered to production
- **Reduce 75% of the overall migration process lead time** taken, with just an introduction of Impact analysis using Metadata!

Note that these improvements did not yet include any changes to the actual engineering process!

Orion Migration Approach

This is the approach for navigating the IT ecosystem through migrations and in changing business conditions. **“Stay on the course & avoid hitting the rocks. Know always where you are and where you need to go.”** As a byproduct of the migration approach you improve compliance.



1. **Manual architecture blueprint and vision** – Potential migration releases (application catalog) & priority
2. **Metadata Discovery** – incrementally created accurate and auditable blueprint
3. **Migration increment priority** - Application priority ranking & migration backlog/roadmap (benefit / effort / dependencies / complexities)
4. **Migration planning** in the priority order - accurate change impact analysis & work estimation
5. During & after the migration metadata discovery enables to **control compliance** and avoid creation of redundant data structures



How do identify the most valuable data assets & scope for a migration project?

According to Gartner study in 2019 the biggest challenge for Data Management practice is: **“Identifying data that delivers value and scoping data management activities”**. This is a very relevant challenge for any migration project. Ability to reduce migration scope by 25% reduces migration costs and risks and accelerates time to value. A solution that can deliver this is easy to justify as the savings per migration can easily reach + \$1M€.

Stay tuned for Metadata Analytics!

EIIG can to narrow migration scope with metadata analytics. Facts about data asset “health” enable to focus on data assets that have the most value & risk for business usage and to avoid migration of duplicate, redundant and non-used data assets and flows.

About Orion Governance

Incorporated in 2017 with 20+ years of R&D and Accumulated IP, Orion Governance’s corporate mission is to provide solutions that accelerate the adoption and implementation of information governance.

Our global presence and industry knowledge assist our clients in building, enriching and expanding their governance platform to fully meet their audit and compliance requirements. The result is unparalleled end to end traceability and projects with triple digit return on investment.

Partners: IBM, Deloitte-Tohmatsu Risk Services Co. Ltd and Hitachi Vantara

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