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Integration Approaches and Recommended Strategies
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Agenda

- Defining “Integration”
- Understanding the Business Case
- Framing the Integration
- Exploring Integration Tools
  - Excel-Based Integrations
  - Data Processor / Data Extractor
  - ConnectAll

Defining “Integration”

What is an Integration?

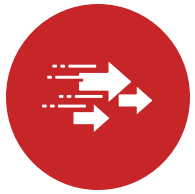
Traditionally, it's a systematic merging of data between two applications.

As noted in our 2024 Trends, integrations in the PPM space have more recently focused on true **interoperability**, in which they facilitate the automation of business processes.

Note: For the purposes of this discussion, we're excluding reporting-based "integration" by way of merged data sets and an aggregating BI layer. However, it's a viable consideration when the requirements focus on data consumption and less on interoperability.

Why Integrate?

Increasing Integration Demands



AI-Driven Acceleration

- AI adoption and the demand for data are accelerating the need for integration and automation.
- AI is only as good as its data. Integrations are promoting data quality by eliminating human touch points and streamlining workflows.

Organizational Transformations

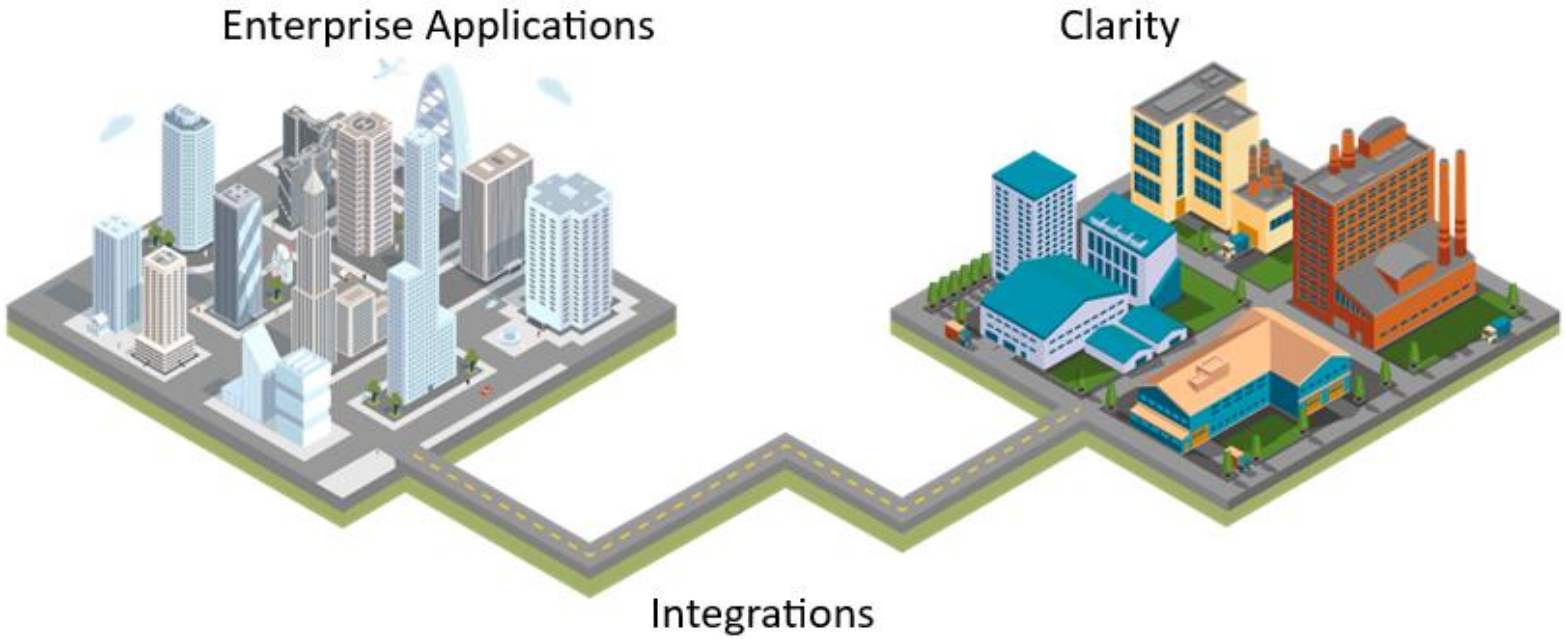
- Shifts in management models and remote work increase reliance on interconnected data and workflows.
- Real-time application syncing and workflow automation are essential for staggered work schedules.

Technological Evolutions

- Diverse tool ecosystems are replacing the single solution play.
- Rise of integration platforms allows for central hubs, simplifying connections and enabling automated processes.

Why Integrate?

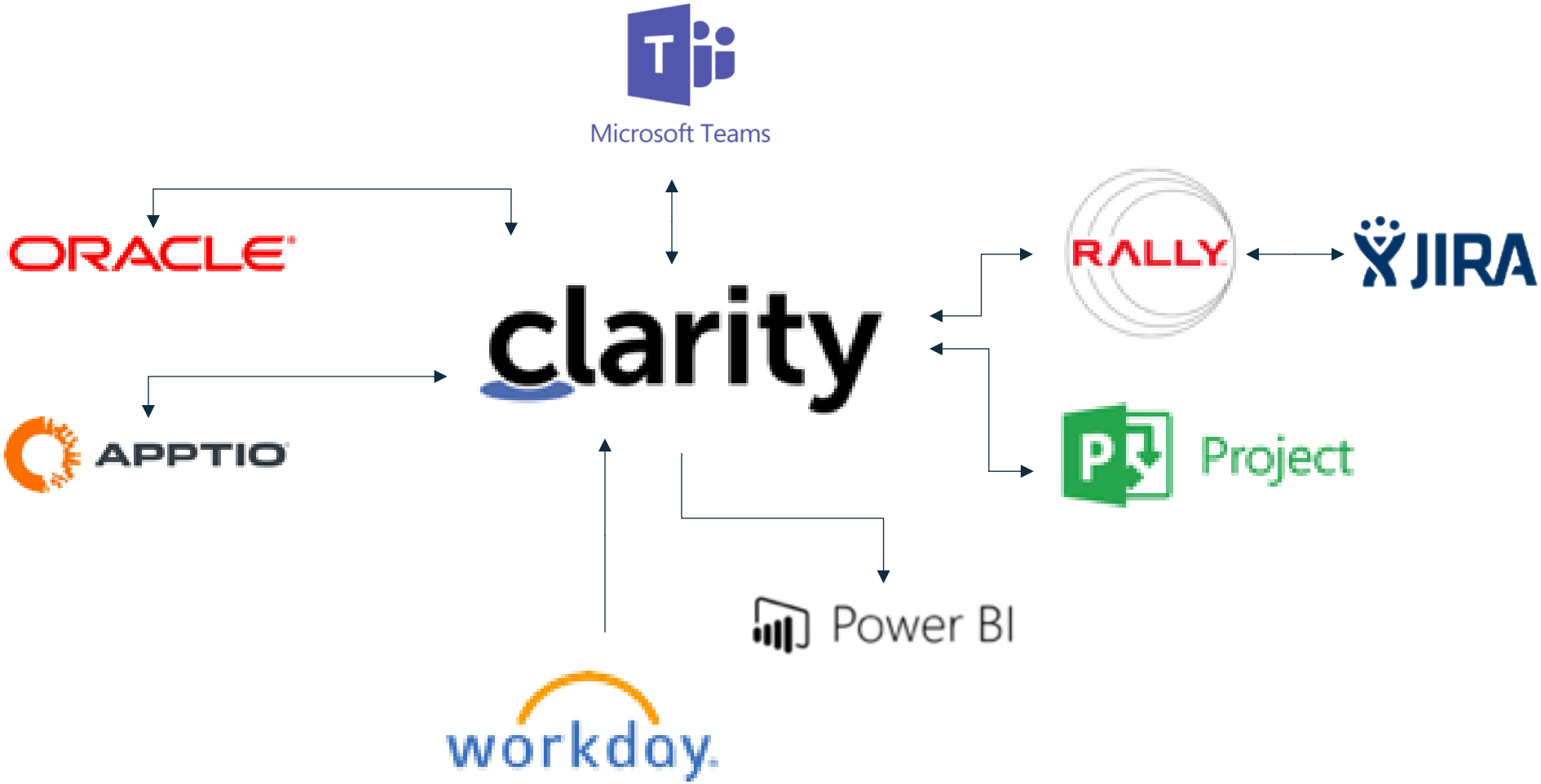
- Increasing number of applications with specialized functionality
- Organizations are allowing teams to use their own applications
- Facilitating business process
- Eliminating administrative activities
- Eliminate double entry
- Data consistency
- Proving a one-stop-shop
- Reduction of license costs
- Data is a valuable asset



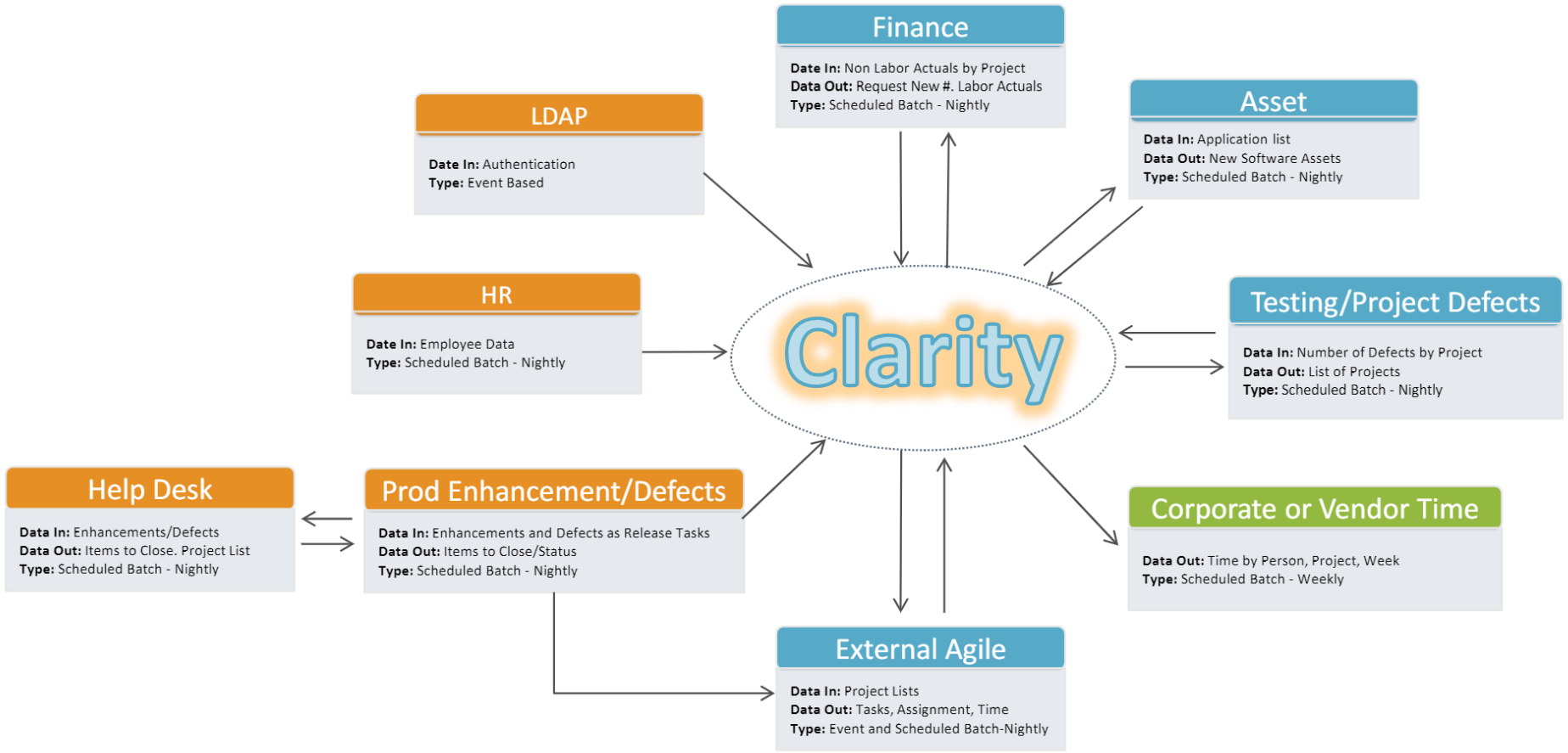
Most Common Integrations

- Agile Tools
  - Who – Rally, Jira, VersionOne
  - How - API
  - What - Project Lifecycle, Time Entry, Capitalization Data
- ERP/Financial Systems
  - Who - SAP, Oracle, JD Edwards, Lawson, Sage, Great Plains, Infinium, Peoplesoft
  - How - Flat file
  - What – Direct Expenses, Time Entry, Cost Centers Forecasts, Budgets
- HR/ Resources Systems
  - Who – ERP Systems, Active Directory, Workday
  - How – Flat file
  - What - LDAP/SSO, Users and Resource Data, Organizational Structure,
- ITSM
  - Who – ServiceNow, Remedy
  - How - API
  - What - Idea and pipeline management, Ticket Escalation, Enhancement requests

Reference Architecture

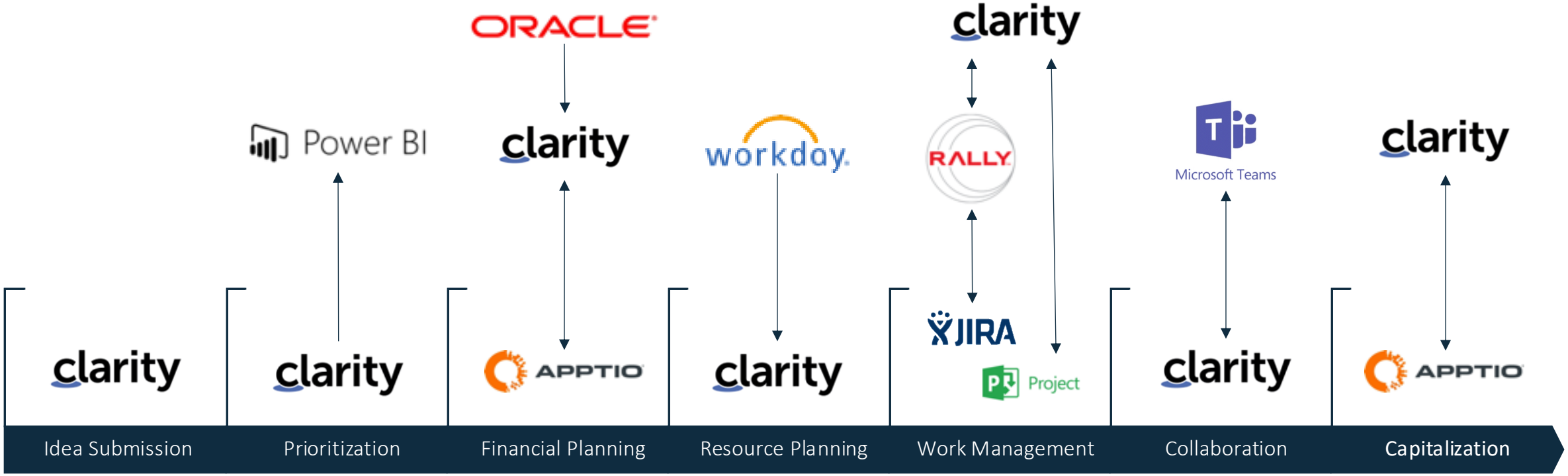


The Wheel and Spoke



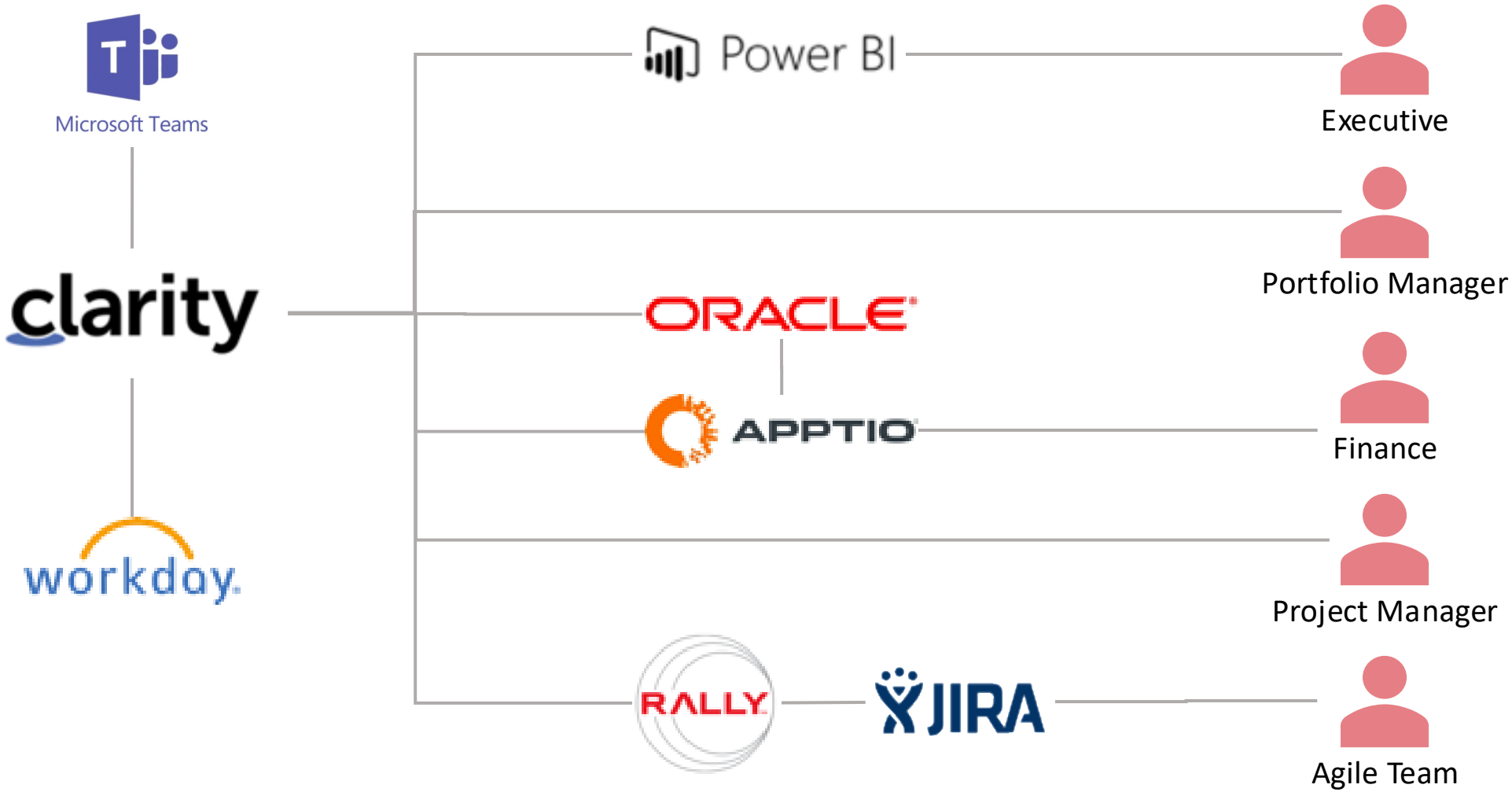
Value Stream-Based Architecture

Overarching goal is to define systems of record and directional integrations.



Persona-Based Architecture

Overarching goal is to keep personas within minimal, fit-for-purpose solutions.



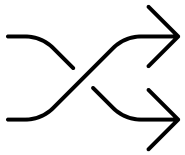
Framing the Integration

Integrate or Replace

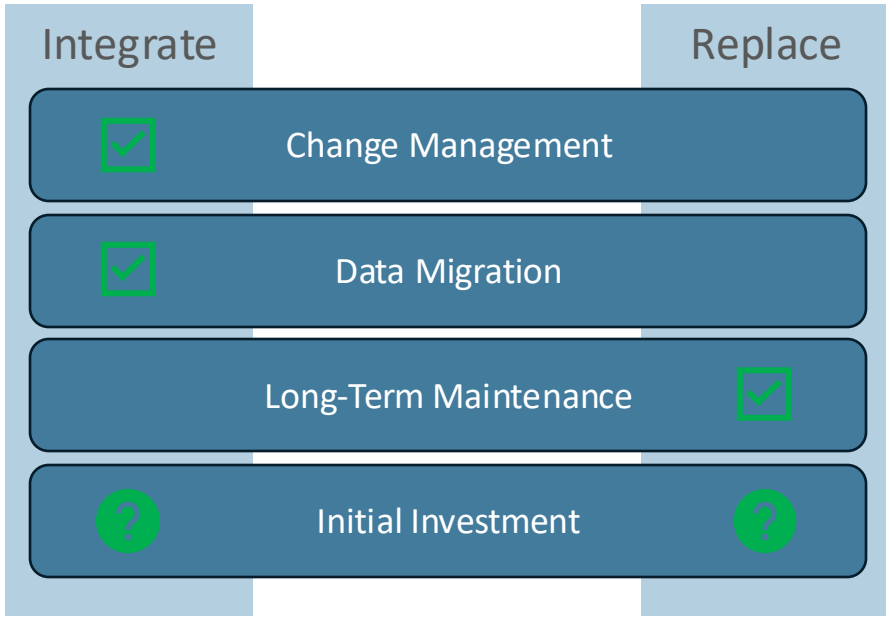
A balanced, rationalized PPM ecosystem requires a strategic evaluation of each system and potential integration opportunity.

Understand the considerations…

- Are comparable capabilities available in Clarity?
- Is system well-adopted with good data quality?
- Is system the source of truth for particular information?
- Are there licensing or access considerations?
- Does system have integration capabilities?
- Are there regulatory, compliance, or internal technology mandates to consider?



…and the impacts.



Integration Guidelines

- Is there a Single Source of Truth (SSOT)?
  - Ensure that everyone uses the same data when making business decisions
  - Understand the accuracy and value of the source data
  - Differentiate between data creation/maintenance and data usage

- Is the process mature?
  - Integrations are built to match process
  - You must understand the process and the flow of information
  - You must have a solid repeatable process and be able to identify programmatically the exceptions

- Don’t over-integrate.
  - Weigh the cost (one-time and ongoing) vs. benefit of each integration opportunity
  - Understand the accuracy of the source data
  - Identify the key integration points and invest in doing it correctly

Objective: Get More Out of your PPM Investment!

Framing the Integration

- What data is being exchanged?
- Directionality (inbound, outbound, bi-directional)?
- What is the source of the data?
- Which application is considered the source of truth?
- Data volume?
- Timing (real-time, batch)?

Location, Location, Location

- Is your Clarity system On Premise or SaaS?
- Is the system you are integrating to On Premise or SaaS?
- Understand the technical limitations/restrictions
  - Protocol support (https, SFTP, etc.)
  - Firewall and security restrictions
- Scenarios:
  - Clarity SaaS to SaaS software
    - Common: Most SaaS products have a rich API suite for integrating
  - Clarity On Premise to On Premise software
    - Common: If both products are within your company borders there are more flexible options for integrating.
  - Clarity SaaS to On Premise software
    - Uncommon: These integrations are more complex. Most will require security exceptions.

High-Level Design

- Consume the data into a staging object
- Validate data
  - Apply business rules
  - Apply transformations
  - Apply validation rules
- Process data
  - Process only new or changed records
  - Warnings vs critical errors
- Error check and handling
- Notifications and monitoring

Error Handling & Testing

- Error handling / transaction management
  - Errors are inevitable when two different systems are being integrated
  - Plan to develop an error handing mechanism to handle data errors, connectivity errors, and system outages
  - Equally important is transaction management and performance considerations
- Trial first to avoid errors
  - Before you build the complete interface, try a semi-automated load to ensure the “process” you have defined is correct; Get a win!
  - It is really important to have test environments that mirror the productions as much as possible and that the data is representative of actual production data

Integration Methods

- Flat file
  - Available for On-Premise and On-Demand
  - Batch interface
  - Large data volume
- Web Services (REST or SOAP)
  - Available for On-Premise and On-Demand
  - Great for real time interfaces
  - Small to medium data volume

Integration Tools

Excel: Enemy or Friend?

- People like to use Excel.
  - Familiar and well-understood.
  - Totally in their control.
- Replacing Excel completely with CA PPM leads to disgruntled users.
  - Find a middle ground.
  - Proclamations will not stop use anyway.
- Excel can support our overarching goals.
  - Data accuracy.
  - End user adoption.
- Understand the world of Excel interface possibilities.
  - Data Processor
  - EDM (Excel Data Manager)
  - Out-of-the-Box CSV Import / Export

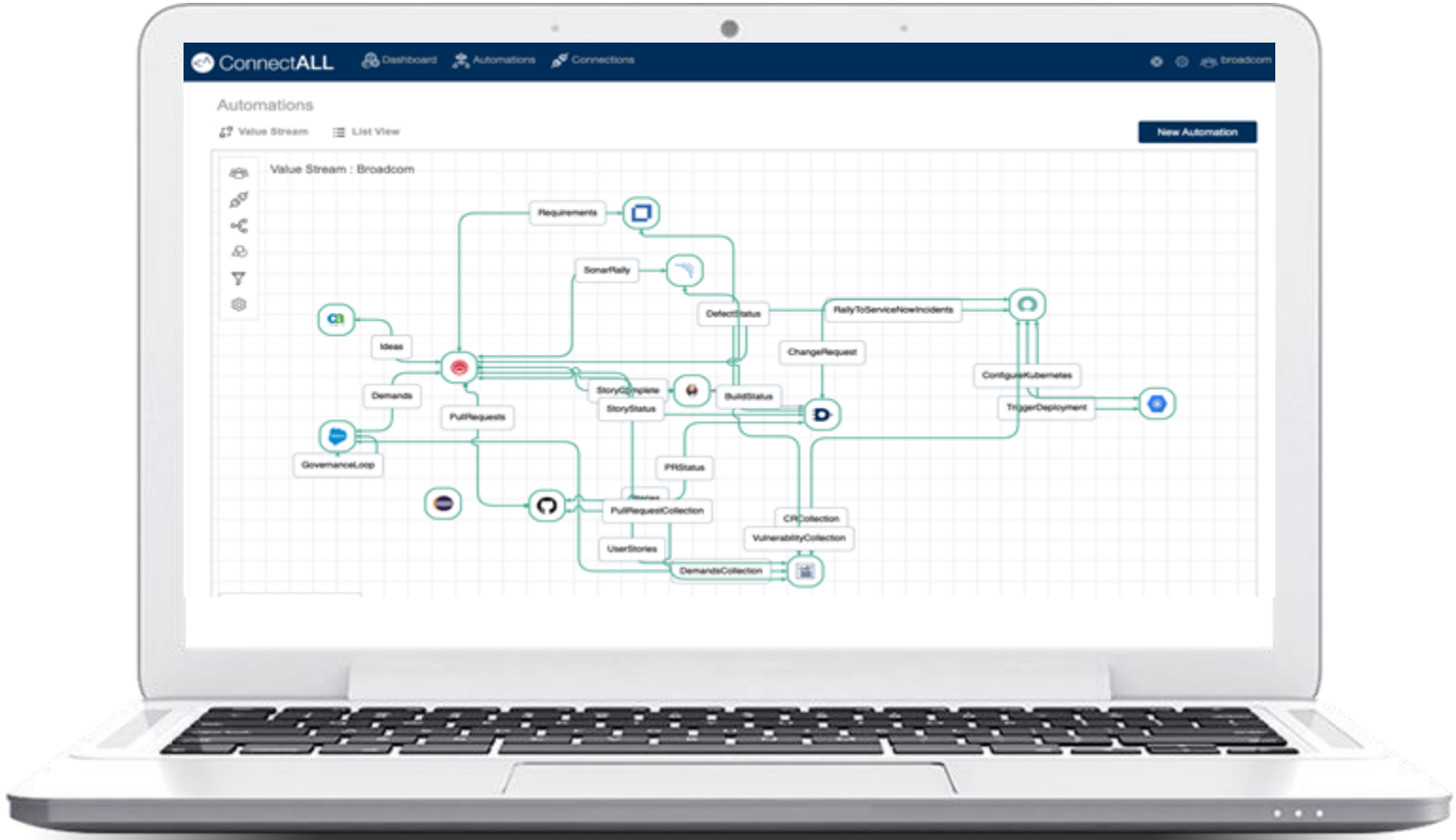
Data Processor Overview

- Purpose
  - Allow users to configure rather than code inbound integrations
- Used For
  - Inbound Integrations
- Advantages
  - Allows common integration tasks to be configured
  - Implements best practices and standard approaches for integration tasks
  - Avoids Clarity GEL Script limitations / governors
  - Avoid bloating instance rights table
  - Uses a Connection Manager to securely store authentication credentials

Data Extractor Overview

- Purpose
  - Efficiently pull data from Clarity into flat files
- Used For
  - Outbound Integrations
  - Feed reporting tools and data warehouses
- Advantages
  - Highly configurable (only code required is a query)
  - Highly performant, efficient, scalable
  - Dynamically produce files based on the provided query
  - Avoids Clarity GEL Script limitations / governors
  - Standardized asset to avoid redundant GEL scripts that produce data extracts

ConnectAll: Wednesday, 2:30PM (Mission Shawnee)



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