

Gartner® SOAP Capabilities

VS.

Tidal Workload Automation



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Gartner SOAP Capabilities Vs. Tidal Workload Automation

Automation strategies have been used by enterprises to power critical business processes for decades. These strategies have evolved over time to keep pace with changing business requirements and technology landscapes – becoming more pervasive, more complex and more essential. Batch processing progressed to job scheduling and, ultimately, to robust enterprise workload automation solutions.

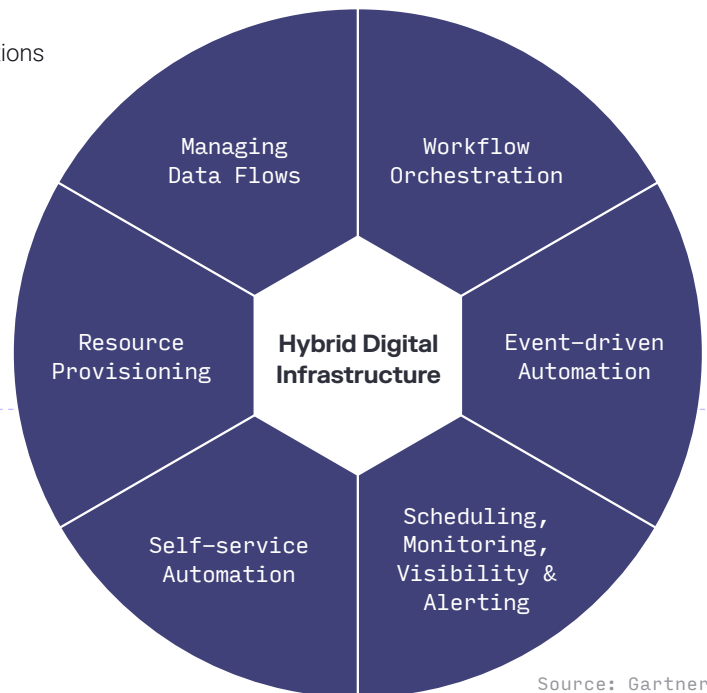
In 2021, Gartner introduced a further evolution that they define as Service Orchestration and Automation Platforms (SOAPs).

“Service orchestration and automation platforms (SOAPs) enable infrastructure and operations (I&O) leaders to design and implement business services through a combination of workflow orchestration, workload automation and resource provisioning across an organization’s hybrid digital infrastructure.”

– Gartner Market Guide for Service Orchestration and Automation Platforms, August 2021

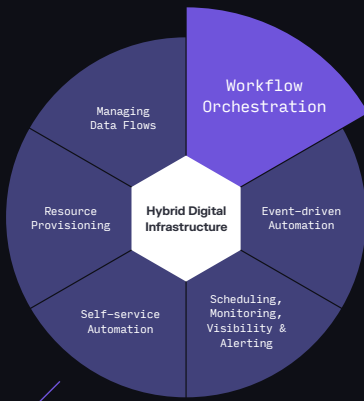
The Gartner Market Guide presents findings and recommendations for the emerging space of enterprise automation for IT environments and business processes.

Tidal has continued to innovate and advance our workload automation solutions to deliver the **six key differentiating capabilities** Gartner cites for service orchestration and automation platforms:



Source: Gartner

> Let's take a look at Tidal's capabilities in each of these categories.



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Workflow Orchestration: SOAPs provide a unified view to design and orchestrate workflows across multiple applications, on-premises and in the cloud. These tools typically include a graphical flow designer to design workflows, visualize interdependencies, and connect disparate tasks and data sources.

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Tidal Workflow Orchestration

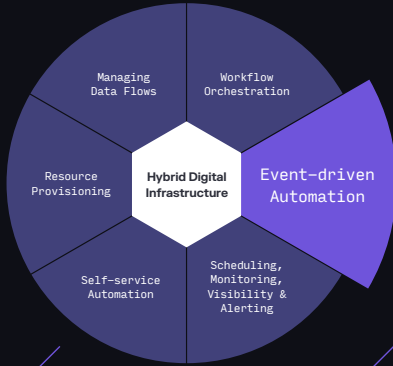
The Tidal platform provides a centralized, single point of control to manage and monitor challenging cross-platform, cross-application workloads. Our growing portfolio of pre-built integrations offers extensive coverage for both legacy and more modern solutions, making it simple to bring enterprise software and systems together for streamlined management and monitoring of processes. Additionally, you can run Tidal on-prem, in the cloud or with our SaaS deployment model. And regardless of where it is running, Tidal automates workloads that are on-prem, in cloud or hybrid environments.

There are a variety of ways to plan, design and manage workflows in Tidal. One way is with the Business Views feature, an easy-to-use graphical flow designer with drag-and-drop, point-and-click functionality. You can define and view the entire flow of a job stream graphically, including compound dependencies.

Plus, you can go beyond workflow design with our variety of graphical tools that are useful for monitoring and optimization. To examine existing job definitions, you can open them in different graphical views – such as PERT, Gantt, Kanban Board and more – and dynamically add or change elements of the job stream or drill down into tasks for more detail. You can also step back and visualize how work is flowing through queues using Sankey diagrams.

Another critical capability available in Tidal is the simultaneous management of tasks and resources. You can define the process flow and match it to the resource on which it runs. The details and benefits of this are discussed further in the SOAP Resource Provisioning category on page 7.

With these and other built-in capabilities discussed below, Tidal reduces the complexity of defining, managing and monitoring cross-application workflows regardless of where they are running.



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Event-driven Automation: SOAPs can automate IT processes that involve manual steps (or require scripting). Some SOAPs allow implementing a sense-policy-respond workflow. This involves sensing an input (trigger), validating against configured rules and policies, and responding by taking appropriate actions. The sense-and-response workflow can use either if-this-then-that logic, heuristics or machine learning (ML) to determine recommended actions.

– Gartner Market Guide for Service Orchestration and Automation Platforms, August 2021

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Tidal Event-driven Automation

The Tidal platform includes an event-action architecture to support the requirements of event-based business models. While there are still relevant use cases for calendars and time-based scheduling, event-driven automation is now essential to meet the demands of 24/7 global operations that rely on near real-time processing to meet customer expectations, innovate and compete.

With Tidal’s extensive pre-built integrations, organizations can orchestrate events and actions across a multitude of target applications and systems without custom scripting. Our event-action approach supports the fact that an event can have many effects and can result in multiple actions. Common events include file arrival, database changes, a variable with a particular value, SLA activity and others. It’s easy to define actions to be taken – initiate a job, send email or notifications, etc. – when an event occurs. A glance at the event-activity dashboard shows you all of the actions taken for each event.

The platform’s monitoring, alerts and recovery capabilities are a prime illustration of the “if-this-then-that” logic in our event-action architecture. Users can define alerts based on events identified during monitoring:

If this event occurs (e.g., a job failure), **then** Tidal can:

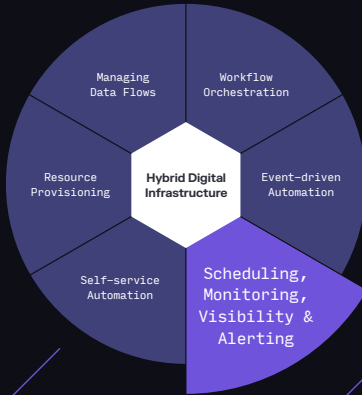
- initiate a recovery action,
- send an email to the owner,
- generate a message to the central console, and/or
- trigger an incident report.

Another illustration of this logic familiar to all of us is managing online orders:

If this event occurs (order file arrives), **then** Tidal can trigger a group of jobs to process the order, such as:

- generate an email acknowledging the order received
- initiate order fulfillment
- update inventory data
- notify that order has shipped
- and more.

Our platform makes it straightforward to design, test and deploy all kinds of business processes that benefit from event-based automation.



Scheduling, Monitoring, Visibility, Alerting: Ensure visibility into IT processes and help meet SLAs. Some SOAPs enable real-time service monitoring, alerting and scheduling capabilities via a mobile app. Combined with self-service automation capabilities, users can monitor the status of scheduled workloads in real time and trigger actions should failures be observed. This includes support for traditional, time-based job scheduling, but also more complex, business-driven scheduling or calendar execution. This enables the plan-predict-optimize workflow for identifying and addressing processes that are in danger of exceeding business SLAs.

– Gartner Market Guide for Service Orchestration and Automation Platforms, August 2021

Scheduling, Monitoring, Visibility and Alerting With Tidal

Robust scheduling capabilities along with comprehensive monitoring, visibility and alerting are all core strengths of Tidal's workload automation. Additionally, SLA management is built into the Tidal platform for real-time monitoring and control. You can easily track execution of a process to ensure it will complete by its required time and receive early warnings if on-time completion is at risk. Other providers offer SLA functionality as an add-on product which makes timely visibility and recovery actions more challenging because data has to be moved downstream to be logged and processed.

The previous SOAP category about event-driven automation describes Tidal's monitoring and alerting functionality, ability to trigger actions and support beyond time-based scheduling that are also mentioned in this category. We will focus here on our SLA capabilities.

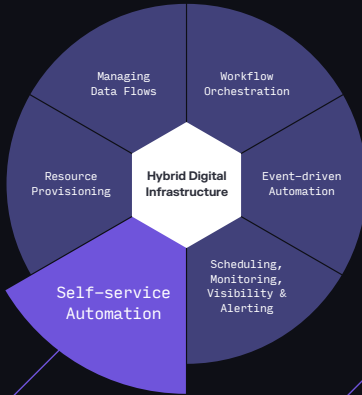
With the increasing interdependencies and complexity of business processes, managing performance to SLAs is critically important. Tidal's platform reduces the risk of missed SLAs in several ways.

In Tidal, you define an SLA at both the job and the process level which means a job can have multiple SLAs and all of them are tracked simultaneously. As an illustration: Job A may have an SLA to complete by 10 p.m. when it is part of regular weekly processing. But for month-end processing, Job A may be the second step of the overall process and, therefore, has an SLA to complete by 7 p.m. in order for the month-end process to meet its SLA.

SLAs can be defined as a point in time or as a window of time. SLA time windows enable you to define time ranges for when a process should run, when it is at risk of running late and when it has missed its SLA. The benefit of adding SLA time windows versus a point in time is early detection. Once a point in time is reached, you've lost valuable time to make adjustments for mitigating the risk. SLA windows provide the benefit of predictive alerting – Tidal can warn you before a problem occurs.

Our platform provides many ways to view SLA activity such as Dashboards and a variety of charts – PERT/Critical Path, Gantt, Kanban Board and more. Users also get drag-and-drop functionality for authoring and editing their views. Plus, there are menus for interactive operations such as stopping or holding jobs.

Tidal Automation has strong capabilities to support a "plan-predict-optimize" approach to your scheduling. You can use real-time monitoring and alerts to optimize and protect critical paths. Full visibility and control make it possible to take proactive measures quickly, to keep processes functioning as intended to meet their SLAs, no matter how complex they are.



Self-service Automation: Give business users, developers and other IT teams the ability to orchestrate their own workflows. SOAs provide users with a self-service administration console with role-based access controls (RBAC) to manage the visibility of their automation workflows. This makes IT operations teams more responsive to business needs, while allowing them to focus on higher-value tasks. This also enables the IT organization to maintain visibility into the tasks that are being consumed via automation for efficiency measures and life cycle management of automation.

– Gartner Market Guide for Service Orchestration and Automation Platforms, August 2021

Tidal Self-service Automation

The Tidal platform provides self-service automation to users across the organization without compromising schedule integrity or security. Empowering users with access appropriate for their role enables more stakeholders to benefit from workload automation.

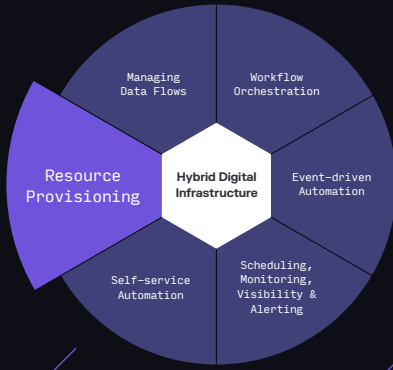
Tidal makes self-service easy to deploy. Administrators simply apply fine-grained role-based access control (RBAC) to give operations, application teams, development groups and business users privileges to just the capabilities they need and limit the parts of the schedule they are able to view and change. These controls define:

- What actions a user can perform against a data record (e.g., create, edit or view), and
- What automation functions a user can perform (e.g., run, hold or cancel a job).

These controls and policies can be defined at the individual user level as well as at a workgroup level where all users in a group share the same permissions. Administrators can also assign users to multiple groups so they can share ownership of overlapping work. For example, users in one group can do things like export jobs to their other groups.

In addition to supporting the principle of least privilege, enterprises need to demonstrate they have the controls in place for critical systems to meet audit and compliance requirements. Tidal's comprehensive auditable logs maintain a high integrity record of who has access to what and who has taken which actions and when.

Tidal is well equipped to support decentralized environments where business units, application owners and developers need appropriate levels of autonomy with the right controls in place so they can respond to business needs quickly without introducing risk into the scheduling environment.



Resource Provisioning: Provision compute, network and storage resources in the cloud and on-premises. Resource provisioning tends to be platform-specific, and capabilities vary among SOAP providers. SOAPs typically support Windows, UNIX, Linux, mainframes, ERP software (SAP, Oracle), and relational database systems (e.g., Microsoft SQL Server, Oracle and IBM Db2).

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Resource Provisioning in Tidal

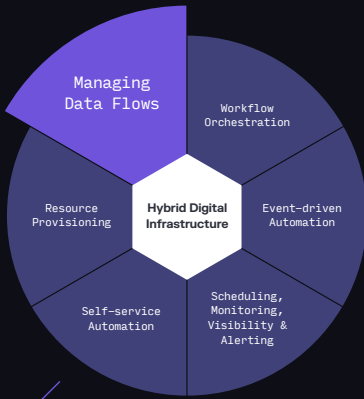
With Tidal, you can provision a multitude of operating systems, applications and devices with pre-built agents and adapters. Beyond provisioning, you can use scheduling activities to manage resource utilization within your overall business processes. With these capabilities, Tidal provides exceptional control over how and when valuable resources are used across the enterprise.

Tidal's resource provisioning and management is accomplished through our extensive set of integrations covering legacy resources – mainframes, Windows, Unix, Linux – popular ERPs and databases, and modern technologies like VMs, clouds and containers with no scripting required.

Once the resources are integrated with our platform, you simply define Tidal jobs to control their activities. For example, with our adapters for AWS and Azure, you can use Tidal jobs to start and stop cloud computing instances (and apply more advanced scheduling capabilities than what's available with the native schedulers). The same is true with our adapter for Kubernetes. You can spin up containers and pods then take them down, so they are running when and only when your processes use them – no less, no more – and bring your containerization initiatives into overall business processes.

While managing dynamic resources is certainly important, Tidal also provides advanced capabilities for overall resource management and efficiency. Our platform offers resource-aware automation so you can control the placement of work across your enterprise resources. Tidal can adjust for load and resource capacity in real time, pushing work to the appropriate resource at the appropriate time based on criteria you define. You can also schedule downtime windows for resources and specify whether jobs should wait or redirect to another resource during that time. You can even set jobs to use servers based on their time zones. That way, you can avoid peak hours and take advantage of lower costs at night, in other regions, or both.

Whatever the mix of modern and legacy technologies you have in place, our platform provides the flexibility you need to provision and manage them in ways that make the best use of resources across the enterprise in order to save time and money.



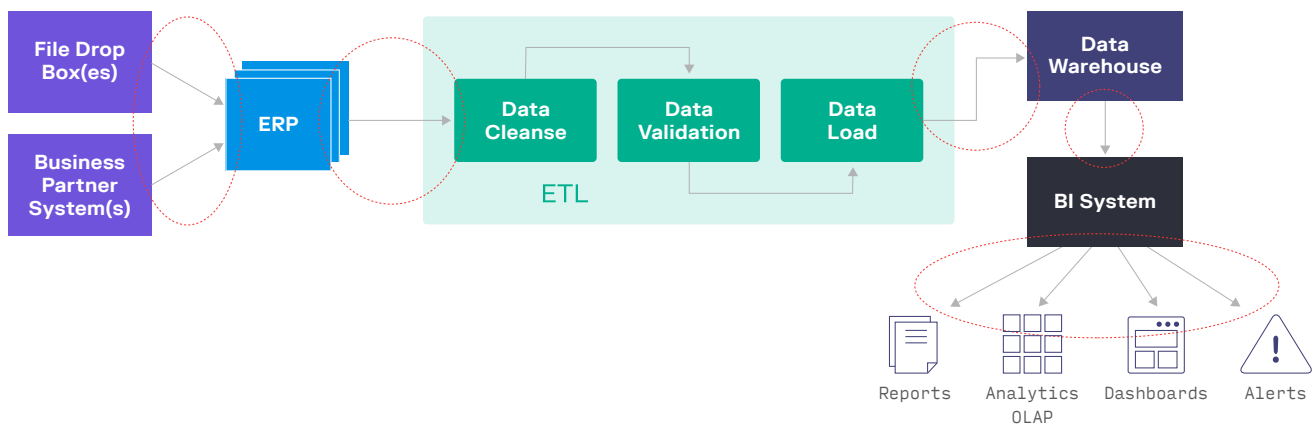
Managing Data Pipelines: Automate file transfer and orchestrate data pipelines. A data pipeline is a logical grouping of activities that collectively accomplish a task. The data pipelines can be used to ingest and process data either for batch processing (e.g., Apache Hadoop), streams processing (Apache Airflow) or interactive processing (for example, Apache Spark). Provide the ability to programmatically create, schedule and monitor data flows using a data pipeline. SOAPs must allow these pipelines to be defined as code, so they can be maintained, versioned, tested and integrated with other tools.

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Managing Data Pipelines in Tidal

Managing data pipelines continues to be the single biggest use case for workload automation. Some of our largest customers rely on the Tidal platform to seamlessly orchestrate data management, movement, processing and storage. It's all about getting data where it needs to be at the right time for each step of a business process.

Looking across the technology landscape and data activities within an enterprise (as shown in the illustration below), it's easy to see how every workflow is subject to pitfalls.



- With a lot of moving parts, data pathways can break.
- Without the right automation, data may not arrive in the right place on time.
- Without visibility, it's difficult to locate bottlenecks.

The result – inaccurate data, missed SLAs and incomplete results.

Our comprehensive set of integrations spans the myriad of tools that enterprises are using for data pipelines, analytics, visualization, and storage/archiving and can orchestrate business-critical data activities running on-prem, in the cloud and hybrid environments.

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Some examples of Tidal's pre-built integrations for commonly used data applications/data activities include:

- Apache® Hadoop for big data processing
- Apache Airflow for data science
- Informatica® for ETL
- SAP® Process Integration for application data exchange
- SAP BusinessObjects for BI
- S3 for block storage

Along with an integrated and centralized approach to managing data pipelines, the Tidal platform provides secure built-in file transfer capabilities across systems. For example, you can easily transfer a file or report from an ERP job and send it via email to stakeholders.

Managing data pipelines has been a long-standing use case with Tidal Automation and continues to be one of the most common. Tidal simplifies the complexities of creating, scheduling and monitoring enterprise data flows.

Enterprise Automation Will Always Be Evolving

Whether you call it *service orchestration and automation* or *workload automation*, it translates to a solution that can drive business efficiency and innovation with better operational performance, lower costs and greater agility.

Enterprise automation isn't standing still – and neither is Tidal. With more than 40 years of experience in the space, we continue to evolve our workload automation solution with new capabilities and integrations covering more use cases so that it's more than an automation platform – it's an essential tool for the success of your business.

Why Tidal

Our unique CustomerFIRST approach puts customers at the center of everything we do. We emphasize partnership, collaboration and value so you get the most from your automation investment. It represents our commitment to customer success based on your requirements and expectations, not ours.

- > Flexible, transparent pricing
- > Exceptional technical support
- > High-velocity product development
- > Ongoing product innovation
- > Active user community



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Tidal Software is a leading provider of enterprise workload automation solutions for orchestrating the execution of complex workflows across systems, applications and IT environments. With a comprehensive portfolio of products and services, Tidal optimizes mission-critical business processes and drives IT cost efficiencies. © 2022 Tidal Software LLC • All rights reserved. 6/22