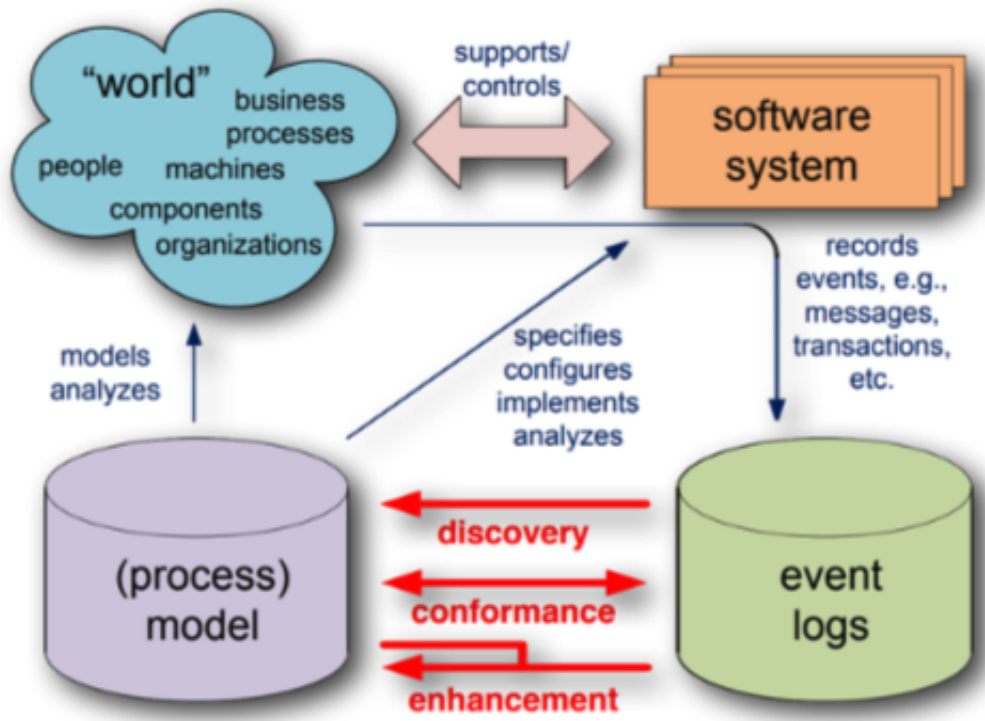# Client BPM Additional Info

Jennifer Morales (C)
Contingent Worker

What is Client BPM?

In our context at Vertex ,the C in CBPM stand for 'Client' to signify our interest in BPM primarily as a way to add value to our Clients. (...versus an internal focus which is valid but outside the scope of this article).

Process mining is a technique designed to discover, monitor and improve real processes (i.e., not assumed processes) by extracting readily available knowledge from the event logs of information systems. Process mining includes:

- Automated process discovery (extracting process models from an event

log)
- Conformance checking (monitoring deviations by comparing model and log)
- Social network/organizational mining
- Automated construction of simulation models
- Model extension
- Model repair
- Case prediction
- History-based recommendations
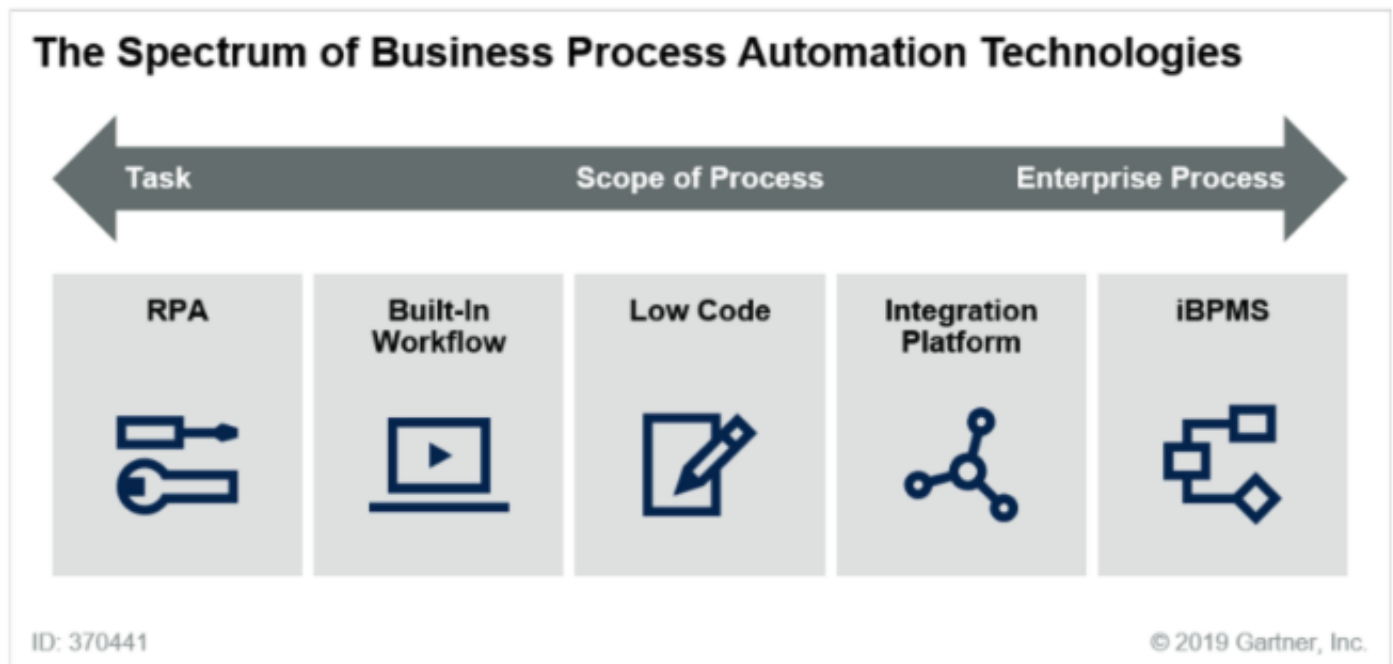
Use Cases Include:
- Business Process Improvement
- Auditing and Compliance
- Process Automation
- Digital Transformation
- IT Operations

Some companies see the goal of using process mining is to explore where existing business processes are inefficient and address those critical areas. Unfortunately for many businesses, this consideration is usually given a low priority. Other companies see combining process mining and simulation offer a predictive edge for businesses. Celonis, considered a leader in this field, draws out that analyzing the data with a process lens is necessary to respond to the rate of change that is increasing for businesses.

Process mining is an out-growth from Business Process Management (BPM). Tools and techniques around BPM have been automated and augmented with AI/ML to become more intelligent and drive for process excellence as well as driving more automation on the path to hyper automation.

Below is the spectrum of business Process Automation technologies:

The Spectrum of Business Process Automation Technologies

Task — Scope of Process — Enterprise Process

| RPA | Built-In Workflow | Low Code | Integration Platform | iBPMS |

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Intelligent business process management systems (iBPMS) are a type of low-code application development platform that enables cohesive execution of business processes. iBPMS is a model-driven approach that uses business rules to tie together the systems, applications, data, people, bots, and AI decisions required to get to a business outcome. As these systems adopt SaaS they are leading to a BPMaaS market growth of $19.56 billion from 2021-2023. Key players in the global business process management as a service (BPMaaS) market: Accenture Plc, Appian Corp., BP Logix Inc., International Business Machines Corp., Open Text Corp., Oracle Corp., Pegasystems Inc., SAP SE, Software AG, and TIBCO Software Inc.

Capabilities in an Intelligent Business Process Management Suite
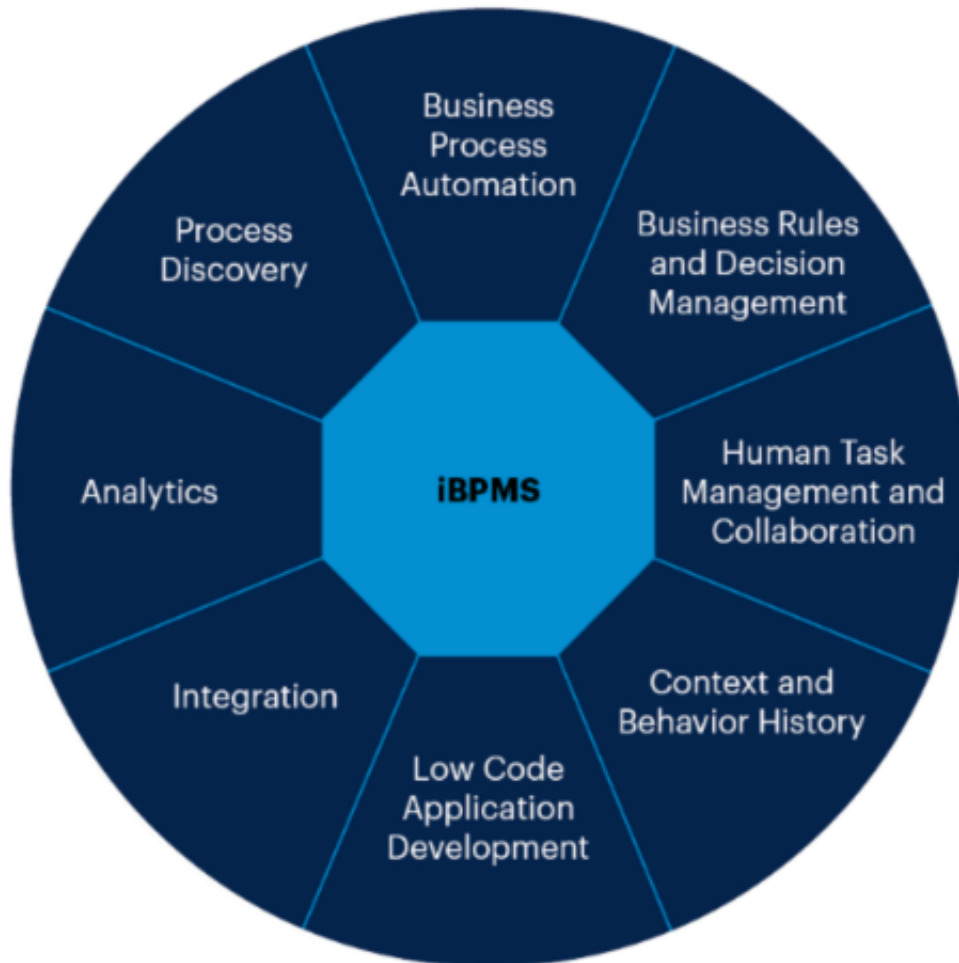
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Applications of Client BPM

Applications of Client BPM include:
- Data science activities with a process orientation
- Customer Experience process discovery and improvement with tools like Gainsight
- Task flows and audit trail analysis with tools like Splunk
- Process visualization based on current user activities
- Process simulation to anticipate issues and areas to optimize
- ERP process visualization, analysis, and optimization across Order to Cash,
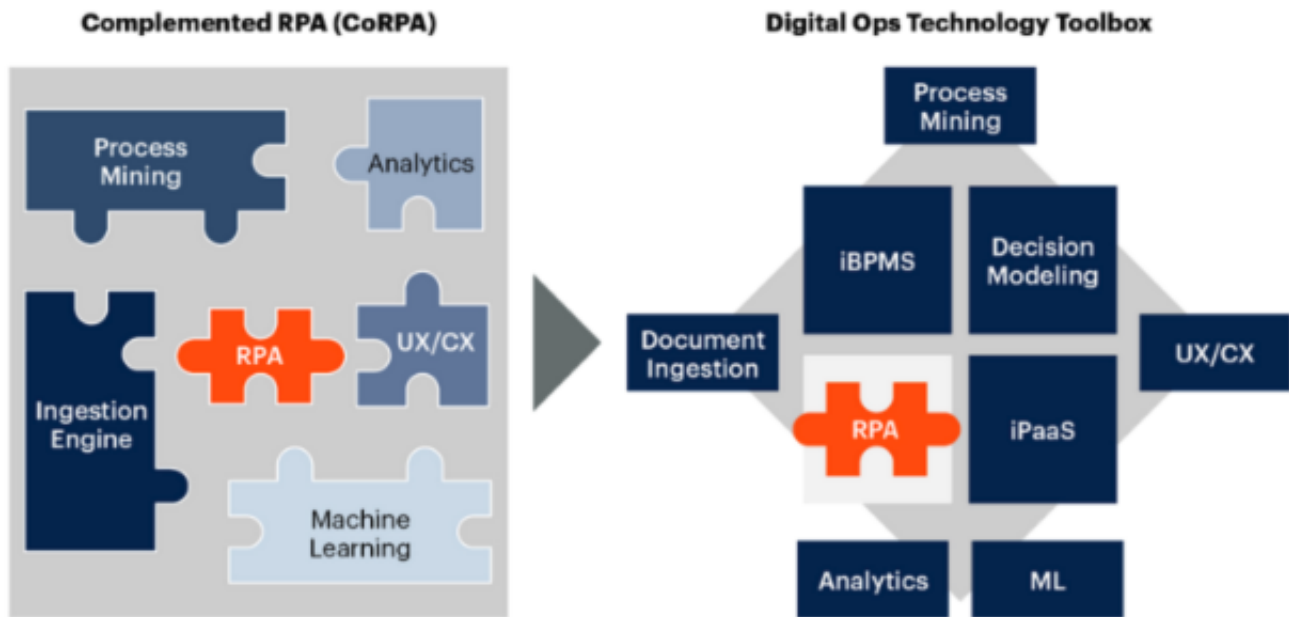
Purchase to Pay, and Complaint to Resolution

Vertex can apply Client BPM in a variety of ways including:

- Improving visibility into user processes based on actual user interactions - e.g. setting up the tax configuration for a company (e.g. jurisdictions, products, tax categories, locations, exemption certificates, etc.)
- Using data analytics to determine where time and energy are being spent in processes
- Business Process Modeling on behalf of our customers across systems/applications. This could be combined with customer-provided data from their enterprise systems and perhaps information available from within our connectors to provide a more robust and complete picture for customers to analyze and improve their processes.

One of the principal benefits of process mining is improved transparency of workflow, which reduces the time for continuous improvement efforts using the Lean Six Sigma method. Process mining also contributes to reducing non-value-add activities and eliminating manual reporting efforts.   The selection of where to apply process mining is important. Organizations will get the best value from applying it to processes that have been digitized and where there is still some unstructured work (i.e. reviews and approvals) that happen outside the system. The solutions that apply process mining will include a combination of RPA and machine learning in the future to drive additional value.

Client BPM and companion technologies are evolving into a Digital Ops toolbox that allows to move beyond individual process automation, RPA, or optimization into hyper automation.

Evolution From Task-Based to Complemented RPA (CoRPA) to Digital Ops Toolbox

Complemented RPA (CoRPA)

Process Mining

Analytics

RPA

UX/CX

Ingestion Engine

Machine Learning

Digital Ops Technology Toolbox

Process Mining

iBPMS

Decision Modeling

Document Ingestion

RPA

iPaaS

UX/CX

Analytics

ML

Source: Gartner
ID: 465015_C

Client BPM Methods, Tools, and Techniques

Starting point for process mining is an event log. All process mining techniques assume that it is possible to sequentially record events such that each event refers to an activity (i.e., a well-defined step in some process) and is related to a particular case (i.e., a process instance). Event logs may store additional information about events. In fact, whenever possible, process mining techniques use extra information such as the resource (i.e., person or device) executing or initiating the activity, the timestamp of the event, or data elements recorded with the event (e.g., the size of an order)   Event logs can be used to conduct three types of process mining.
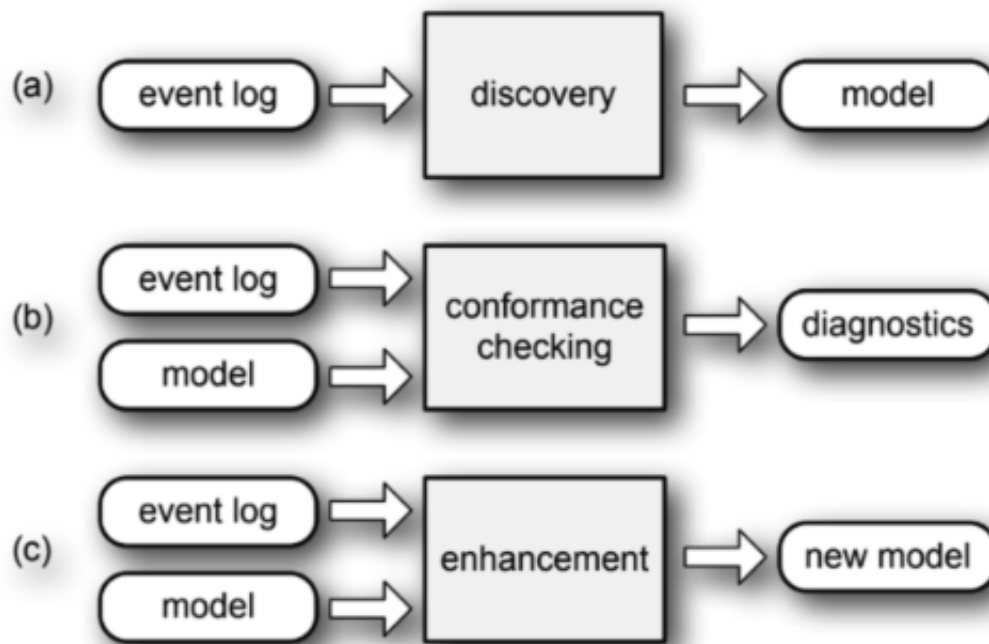
Figure 3: The three basic types of process mining explained in terms of input and output: (a) discovery, (b) conformance checking, and (c) enhancement.

The first type of process mining is discovery. A discovery technique takes an event log and produces a model without using any prior information. Process discovery is the most prominent process mining technique. For many organizations it is surprising to see that existing techniques are indeed able to discover real processes merely based on example executions in event logs.

The second type of process mining is conformance. Here, an existing process model is compared with an event log of the same process. Conformance checking can be used to check if reality, as recorded in the log, conforms to the model and vice versa. Note that different types of models can be considered: conformance checking can be applied to procedural models, organizational models, declarative process models, business rules/policies, laws, etc.

The third type of process mining is enhancement. Here, the idea is to extend or improve an existing process model using information about the actual process recorded in some event log. Whereas conformance checking measures the alignment between model and reality, this third type of process mining aims at

changing or extending the a-priori model. For instance, by using timestamps in the event log one can extend the model to show bottlenecks, service levels,

Conducting Client BPM Projects

To drive business transformation and optimization through technology innovation, enterprise architecture and technology innovation leaders must:

- Rely on proven methods, techniques and tools which, based on available day-to-day operational data, provide an accurate model of the ways of work in a format that can be understood by anyone in the organization. This will improve visibility and understanding of the actual performance of business operations and processes.
- Engage all process participants and create awareness with business and operational colleagues on the benefits, capabilities and uses of process mining, by introducing small, short-term pilots. This will create valuable insights and overcome future shadow processes.
- Explicitly visualize the extensive and expensive set of business processes underpinned by a patchwork of technologies that are often not optimized, lean, connected nor consistent. This will deliver a path to digital operational excellence that addresses the tremendous collective debt within organizations.
- Align internal process maps with customer journey maps by exploring "customer journey mapping," which can help organizations go beyond traditional process discovery use cases and open up an entirely new audience.

Major Client BPM Vendors

Gartner's Market Guide for Process Mining estimates market at $300M-400M. Business Process Improvement as top use case.

Gartner identified over a dozen process mining vendors, with most based in Europe. Celonis was judged to be the market leader. Fluxicon (based in the Netherlands) and its valuation can show the power of processing mining. Celonis

was considered to be the most popular stand-alone analysis focused tool, and Finland-based QPR Software one of the oldest and more comprehensive tool sets in this space. The fact that all these firms are based in Europe suggests that process mining is somewhat further along there.

...dor	Product, Service or Solution Name
...YY	Timeline
...omore	Apromore
...nessOptix	BusinessOptix
...nis	Celonis Intelligent Business Cloud Platform
...nitive Technology	myInvenio
...Flow	EverFlow
...icon	Disco
...gris	Explora
...a Labs	LANA Prodcess Mining (Magellanic), LANA Connect (Rockhopper)
...pickr	Logpickrr Process Explorer 360
...it	Minit
...cess Analytics Factory (PAFP	PAFnow
...cess Mining Groups at TUE and ...TH	ProM, ProM Lite, RapidProM, PM4Py
...le Data	ProDiscoverty
...Software	QPR ProcessAnalyzer
...avio	Signavio Process Intelligence
...ware AG	ARIS Process Mining
...eoLOGIC	StereoLOGIC 2020
...ath	UiPath Process Mining, UiPath Task Mining

Major Client BPM Vendor Startup Activity

Investors continue to fund Client BPM and processing mining companies, with Gartner tracking less than 20 companies and [Tracxn] tracking 73 companies globally. It's interesting to note that of these 20, fully 17 of them are privately held. Examples of some start-up companies include:

duct, vice or tion Name	Comments	Located	People	Ver Rou
promore	free to use open source Community Edition	Australia	<50	A, in
sinessOptix	strategy-to-execution and reverse - a lot of process modeling	Missouri, London		pr in
Celonis ntelligent iness Cloud Platform	Leader- 120 consulting/ implementation partners, 600 clients, 30 countries, intelligent business cloud, containerized, microservices, cloud based	Munich, NY	>1000	D
Minit	on prem and cloud, complex process at different hiearchical levels, rpa candidate identification	Amsterdam, Slovak Repu blic	<50	A

Client BPM Sources

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- Other sources
  - [iBPMS with intelligent automation at the core | Pega](#)
  - [Celonis Acquires PAF: Welcome to Execution Management Everywhere](#)