

# How DecisionPoint™ addresses the needs of the IT department

A scalable, manageable architecture for handling large data volumes and a large user base

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## Introduction

DecisionPoint™ enables you to create Task-Focused BI. Task-Focused BI starts where Data Discovery ends by taking the findings of business analysts and data scientists, transforming these into actionable information and delivering them to large numbers of people at the front-line of the organization to help guide their daily activities and enable them to make more effective decisions. To implement Task-Focused BI successfully across your organization, you need to satisfy the needs of multiple stakeholders:

- **Information Consumers**, the front-line decision-makers in our organizations, need fast access to great-looking content that is packaged as a “BI App”. A well-designed dashboard should be designed around the task in hand and reflect the language of the business, so that just like an iPad app, it requires no-training to learn. A good dashboard provides answers to a decision-maker’s follow-on questions, without them needing to become an analyst or a BI expert or to go back to the BI Designer
- **BI Designers** (*whether in a BI Team or power-users in a business department*) need a productive, no-coding environment for building and delivering content that decision-makers can just pick up and use, on any device. With business departments expecting new BI requests to be turned around in days rather than months, effective BI must support agile processes that aid collaboration between Designers and decision-makers to ensure the business gets the information it really needs
- **IT** wants to eradicate shadow BI systems and regain control of BI with a product that ticks all of their “enterprise-ready” boxes **and** that ticks all of the boxes for the business, too. Typically, IT is looking to avoid data duplication, wants a system that fits within its existing infrastructure and security framework,

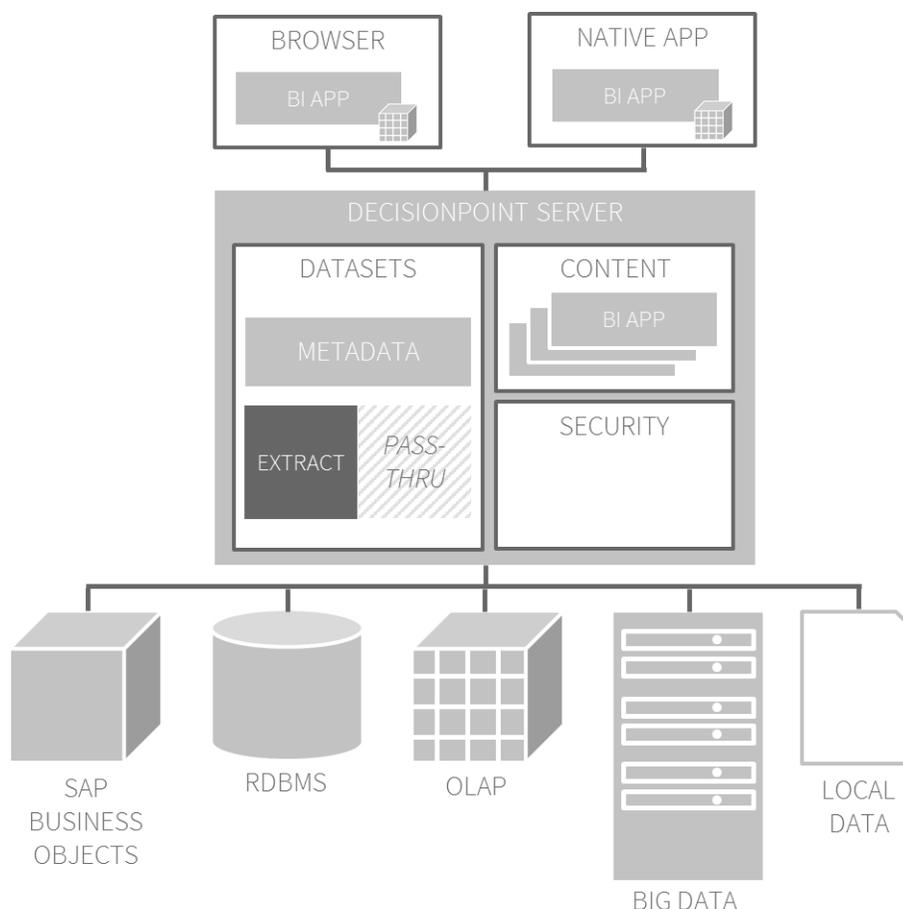
delivers the performance that BI Users / Consumers demand and, crucially, that scales cost-effectively (light on hardware and sensible licensing) to support a large user community

To meet the needs of IT, a Task-Focused BI product must be built on a scalable, manageable architecture that can easily handle today's large, fast-growing data volumes and, at the same time, support a significant user base.

In this document, we see how DecisionPoint™ is built on just such an architecture, enabling it not only to delight Information Consumers and BI Designers but also to deliver exactly what IT needs from a modern BI system.

## DecisionPoint™ Architecture

DecisionPoint™ was designed from the ground up to scale to support the needs of large user communities accessing very large datasets through dashboards, on both mobile devices and the desktop, even over low-bandwidth networks (e.g. public Wi-Fi).



DecisionPoint™ Architecture

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# Data Management

## Advanced Cooperative Processing (ACP)

To optimize performance, handle large data volumes, minimize data duplication, and simplify sharing of content, DecisionPoint™ uses Advanced Cooperative Processing (ACP) an intelligent method of determining how, where and when data is stored, managed and refreshed, including:

- The underlying operational systems
- The DecisionPoint™ Server
- The DecisionPoint™ Client (*Browser or Native App*)

### Accessing regular datasets

Other than when connecting to a super-fast Big Database, DecisionPoint™ creates an extract against a data source and stores the results on the DecisionPoint Server. For the majority of regular datasets, which are typically sub 100,000 rows, with ACP, the entire extract can be downloaded to the client when the user accesses their BI app. This ensures great click-to-click response times (even on low bandwidth mobile networks) and, critically, provides users with offline access to their BI content, with no loss of functionality, which is a key requirement for many mobile BI deployments.

This is a very different approach to most BI tools which either run directly against the underlying database or duplicate all of the source data at a granular level, in a proprietary, and hardware intensive, in-memory database.

### Accessing larger datasets

For larger datasets, ACP passes subsets of data from the DecisionPoint™ Server to the DecisionPoint Client™ to ensure decision-makers always have visibility of the right information at the right level of aggregation. When a user initially opens their dashboard, ACP will fetch summary level information from the DecisionPoint™ Server to satisfy the top few levels of detail. As the decision-maker navigates more deeply into their data to explore 2<sup>nd</sup> and 3<sup>rd</sup> level questions, ACP fetches additional subsets of data at a lower level of detail but narrowed down to the area the user is investigating.

This approach ensures the best balance between snappy click-to-click response times on the device whilst retaining the ability to roam over very large datasets.

### Accessing Big Data

Much of the hype surrounding Big Data focuses on empowering the small number of analysts within an organization to use self-service Data Discovery tools to uncover new business insights. Whilst this is a valuable

activity, it ignores the fact that there is potentially even more value in Big Data if you disseminate these new insights to non-analysts - the 80-90% of users in our organizations who have a day-job to do and who need information to guide their daily activities –the Information Consumers.

That is why we designed DecisionPoint™ to deliver rapid value from Big Data databases to Information Consumers.

When working with Big Data databases, ACP uses the same mechanism as with other large datasets to deliver subsets of data to the client based on the user's activity. However, instead of a data extract being held on the DecisionPoint™ Server, ACP takes full advantage of the power and performance of the Big Data source by automatically generating the intermediate queries required to fetch the subsets of data, with no further work required by IT, which can be a huge time-saver.

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## Mobility

DecisionPoint™ is fully optimized for mobile BI. It supports local gestures on the device, for a natural user experience. It implements LivePreview™ so BI Designers can see their dashboard live on each target device as they design, with changes reflected immediately across all devices, allowing multi-channel BI to be delivered much faster than with other BI products. And, by storing data locally on the client device, DecisionPoint™:

- Eliminates the round trip to the server after every tap (or click) which plagues other BI tools, ensuring decision-makers always enjoy fast, consistent response times. This means all user interactions including drill, pivot, sort and slice-and-dice are processed on the device to guarantee a great user experience
- Ensures decision-makers always have the information they need to make decisions, wherever they are, whatever the speed or quality of their network
- Provides full offline access to secure BI content, with no loss of functionality, for times when no network connection is available

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## Security

### Authentication

For smaller deployments and proof-of-concept projects, DecisionPoint™ provides its own role-based security model, which is managed through the DecisionPoint™ Data Center module.

However, for larger deployments, to reduce administration effort and to keep cost of ownership low, DecisionPoint™ can delegate authentication to existing security systems, including LDAP, Active Directory and even SAP BusinessObjects.

The DecisionPoint™ Server is built on an extensible, plug-in framework that makes it easy for Antivia to add connectivity to other security systems, where required (for example, for hosted test-drives, authentication is performed by a plug-in that connects to Antivia's proprietary Electronic Software Delivery system).

## Data access and personalization

When rolling out dashboards to a wider audience, IT often needs to control which information specific people are allowed to view. For example: an account manager may only be allowed to see details of their accounts, a line manager may only be authorized to see details of their direct reports, and a cost-center manager may only be able to see details of transactions from their department.

DecisionPoint™ supports this in 2 ways:

- Where data access controls have already been implemented at the database level, DecisionPoint™ can leverage this by passing the current user's username and password as login credentials to the database. This way, the data extract returned to the DecisionPoint™ Server and displayed in the dashboard will automatically be restricted to information that the current user is authorized to view
- To manage system resources most efficiently, DecisionPoint™ also supports "row-level mapping" where a filter is applied to certain dimensions in the data extract on the DecisionPoint™ Server, to restrict the information a user sees in their dashboard. In this way, a single extract can be scheduled and shared by multiple users, all with potentially different profiles, but each seeing only their authorized information.

## Data security on mobile

All data transferred between the DecisionPoint™ Server and the DecisionPoint™ Client applications is secured using 128-bit encryption. In the case of the web application, data is only stored transiently on the device and is deleted the moment the user closes their dashboard or terminates their browser session.

With the native applications available for iOS and Android devices, IT can authorize certain users to take specified dashboards offline. This is a key mobile workflow for remote workers, as network coverage is still patchy in many areas. When a user takes a dashboard offline the data is stored on the device and is secured with 128-bit encryption.

Access to DecisionPoint™ Client applications is password protected and IT can control when users are challenged to provide their password (e.g. each time the App is started, each time the app comes back into focus, etc.)

Finally, DecisionPoint™ is compatible with Mobile Device Management software to support remote wiping of the application and its data, should a user's tablet device be lost or stolen.

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## Scalability

When rolling out dashboards to a wide audience, potentially rising to many thousands or even tens of thousands, IT needs a platform that can scale.

DecisionPoint™ has been designed from the ground-up to support very large user communities, using commodity hardware. The DecisionPoint™ Server has a very light footprint thanks to the use of ACP, which delegates most of the processing to the client, minimizing the server's workload. The result is a scalable system that can support up to 100 concurrent users on a single CPU-core.

In larger deployments, to provide more resilience and a failover capability, multiple DecisionPoint™ Servers can be deployed in parallel using a Load Balancer, which provides linear scalability as the deployment grows.

Assuming a 10% concurrency rate, then you can easily support a community of 10,000 physical users with hardware costing well under \$5,000.

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## Customization and integration

DecisionPoint™ is built on standard HTML5 and CSS3 web technologies which makes it easy to:

- Customize the look and feel of a dashboard to fit with an organization's brand using themes. Themes are created by web-designers and can be applied to multiple dashboards to create a consistent look and feel. Customization goes far beyond adding a logo or changing fonts and colors, going so far as to enable an organization to change the look and feel of the components themselves
- Embed DecisionPoint™ content in third party websites and web portals including passing parameters to manage single-sign on (SSO) and to retain context (e.g. passing a customer number from the portal application into a DecisionPoint™ dashboard to use a data filter). You can see an example of embedded DecisionPoint™ content on the [demo pages of Antivia's website](#).

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## Summary

DecisionPoint™ provides everything an organization needs to create and deploy effective, modern dashboards that meet the needs of today's Information Consumers and meet the needs of IT for a scalable, manageable architecture that can handle today's large, fast-growing data volumes and, at the same time, support a significant user base.

DecisionPoint™:

- Optimizes performance, handles large data volumes, minimizes data duplication, and simplifies sharing of content by using Advanced Cooperative Processing (ACP) to determine how, where and when data is stored, managed and refreshed
- Is fully optimized for mobile BI, providing fast response times even in low-bandwidth environments and enabling Information Consumers to access dashboards when they are offline, with no loss of functionality
- Minimizes cost of ownership and reduces administration effort by delegating authentication to existing security systems, including LDAP, Active Directory and even SAP BusinessObjects
- Supports very large user communities, with a very light server footprint, thanks to the use of ACP, which delegates most of the processing to the client, minimizing the server's workload and resulting in a scalable architecture that can support up to 150 concurrent users on a single CPU-core
- Is built on standard HTML5 and CSS3 web technologies which makes it easy to customize the look and feel of dashboards to match an organization's brand and to embed within existing websites and web portals

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## About Antivia

At Antivia we believe that BI needs to be designed for the end-users in a business – sales people, store managers, warehouse managers, executives, call center team leaders – the people who run the business on a day-to-day basis. These people need fingertip access to information to help them make informed decisions. They don't have time to wait for IT to get back to them with the latest figures and they are not analysts, so they don't have time to learn and master a Data Discovery tool.

These people need something different. That something different is our flagship product, DecisionPoint™.

DecisionPoint™ enables non-programmers to create stunning interactive dashboards in minutes and share these with anyone on a web browser, tablet or smart phone.

These dashboards can be used by front-line decision-makers without training to get answers to both their immediate and follow-up questions, ensuring the business information they need is always available at their fingertips.

We operate from offices in the United States and Europe and we're trusted by organizations both large and small across four continents, including 3M, Deutsche Bank, Honda, Shell, Shire Pharmaceuticals, The Coca-Cola Company, The NHS and Vodafone.