



## Getting Your Head Out-of-the-Clouds: Considerations for Deploying SaaS-based BI

### DELIVERING COST EFFECTIVE BUSINESS INTELLIGENCE USING SOFTWARE AS A SERVICE

Hosted reporting and analytics platforms are gaining an increasing share of the business intelligence (BI) market. Traditionally, SaaS-based BI vendors have partnered with a co-location provider to ensure stringent security, 24/7 application availability, seamless hardware scalability, and optimal hardware operating environments. Recently, some BI vendors have begun touting cloud-based BI delivery options, a commoditized form of co-location offered by companies such as Amazon and Google.

*This paper discusses Dimensional Insight's fully featured and robust SaaS-based business intelligence platform, InterReport, and discusses the benefits of co-located over cloud-based SaaS. Hosting, also known as Software as a Service (SaaS), makes compelling sense as a BI delivery channel on several levels:*

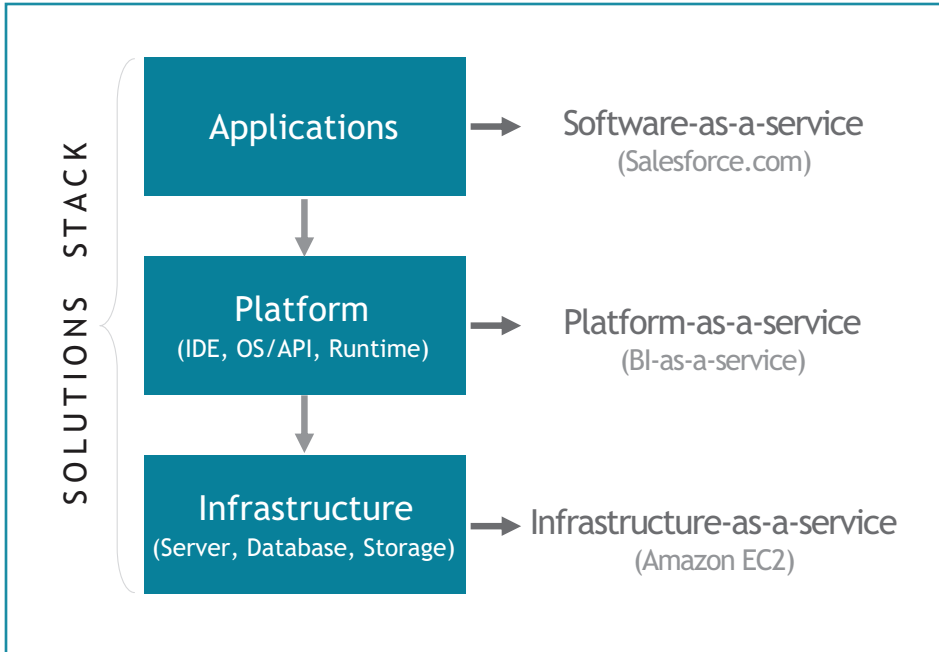
**PERVASIVE BI:** SaaS extends the availability of existing, on-site BI tools to a wider population of non-power users whose productivity is greatly enhanced by having access to self-service reporting tools.

**LOWER TOTAL COST OF OWNERSHIP (TCO):** Low monthly subscription fees cover a pre-defined, all-inclusive package of reporting and analytics services. Accessed via small- or zero-footprint web clients, end user's desktops, laptops, and mobile devices require no RAM or CPU upgrades in order to make optimal use of the SaaS-based application.

**REDUCED IT INVOLVEMENT AND EASIER SCALABILITY:** SaaS-based BI provides customers with a "turn-key" solution. Ongoing software upgrades to the SaaS-based platform are handled by the BI platform vendor, rather than shifting this burden to increasingly understaffed internal IT departments. This ensures that critical software upgrades are installed immediately following release, rather than experiencing potential delays or piecemeal rollouts across a company's user base. Adding additional users is also far easier with SaaS, since the vendor and their hosting facility possess the needed software expertise and excess hardware capacity to make scale-ups seamless for the end user. With the decreased dependence on IT, SaaS application implementation timeframes are typically far shorter than on-site software rollouts.

**BUDGETARY SIMPLICITY:** In the current economic environment, CFO's are imposing increasing fiscal discipline on their organizations. Undergoing the greatest scrutiny, and subjected to the most intense justification, are large capital expenditures such as new hardware and software purchases. In contrast, fixed, monthly operational costs such as SaaS-based subscriptions are far easier to justify and successfully fund. With hardware on the vendor's ledger, depreciation no longer impacts budgetary decisions.





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 TYPES OF CLOUD-BASED  
 SERVICES ARE SHOWN  
 ABOVE.

#### SAAS-BASED BI HURDLES: OVERCOMING OBSTACLES

Although SaaS-based BI delivery promises a plethora of benefits, from lower TCO to faster implementation timeframes, data integration challenges coupled with a lack of visualization options often hinder the acceptance of SaaS-based BI product offerings. Dimensional Insight’s SaaS BI platform, InterReport, addresses each of these challenges to ensure organizations are able to rapidly deploy and realize a return from their SaaS BI investment.

Integration of disparate data sources: While SaaS provides an innovative information delivery channel, a robust data integration front end must be an integral part of any BI platform to ensure the successful conversion of raw data to actionable information.

According to BI industry analyst Scott Opitz<sup>1</sup>, “Most SaaS-based BI vendors support a simple flat file upload. Others offer primitive batch uploads from a source RDBMS. These are fine options if all your data is in one nice, neat data set and that data set rarely changes or gets updated. But that’s rarely the case in the real world. Today’s SaaS-based solutions make unrealistic assumptions about the quality of the data that gets uploaded. There is no capability to do even simple data transforms or logical data mapping to establish data relationships. It is simply required that all fields across disparate sources share the same name - a completely unrealistic assumption in the real world.”

By contrast, Dimensional Insight solved the data integration challenge long before entering the SaaS arena. Integral to the success of The Diver Solution™, DI’s onsite BI platform, DI’s Data Integrator component provides a comprehensive suite of extract-transform-load (ETL) functionality. Data Integrator ensures connectivity to virtually

any data source, including ODBC-compliant databases, flat files, proprietary file formats, and MS Excel spreadsheets. A rich palette of data transformation and mapping functions allow source data to be efficiently converted into DI data Models, the patented, highly-indexed data structures underpinning Dimensional Insight's reporting and analytics services.

SaaS BI applications lack rich content visual interfaces: Opitz observes that "The majority of SaaS-based BI solutions deliver only very primitive data visualization and analysis features. Most fall far short of delivering highly interactive dashboards, with alerts, multi-path drill-downs, real-time data refresh, maps, synchronized component behavior, and other rich features."

Here again, Dimensional Insight proves to be leading the industry. InterReport provides users with the same rich content dashboards, graphs, and reports found in The Diver Solution™, Dimensional Insight's on-site BI platform. General licensees have access to the full suite of advanced analytics, visualization, and ad-hoc analysis functionality via NetDiver, a zero footprint web client providing users with all the BI tools necessary to visualize and interact with business critical data.

#### CO-LOCATION OR CLOUD-BASED SAAS?

##### PARALLELS AND DIFFERENCES

Although the latest IT trends and newest technological innovations tend to garner the lion's share of press from bloggers and industry pundits<sup>2</sup>, the frequent curse of early adoption should give CIO's pause before discarding proven, mature business models such as co-location based SaaS. The following potential failure points should be carefully considered when comparing co-location with cloud-based hosting and should all be explicitly addressed in the vendor's Service Level Agreement (SLA):

**STABLE PRICING:** DI guarantees a fixed monthly rate for clients of its SaaS BI product, InterReport, rather than charging for processor usage, network bandwidth consumption, or data storage volumes occupied. Imagine a hospital that experiences unforeseen spikes in admissions or length of stays or a distribution company that acquires a new company with new product lines. The corresponding increase in data processing and storage requirements associated with those spikes could easily double an organization's monthly bill if their BI platform was hosted by a cloud-based vendor.

**SCALABILITY:** Cloud-based platforms such as Amazon's EC2 have a very limited selection of processor, bandwidth, storage and memory increments that you can select as you scale up service offerings and applications. With co-location, DI has immense control over how to optimally fine tune hardware needs because DI supplies the hardware hosted by DI's co-location vendor.

**SUITABILITY FOR BI APPLICATIONS:** Industry analyst Randy George<sup>3</sup> states that "The cloud is no place for highly transactional systems or latency-sensitive data. If you want to break a perfectly functional data-driven application, put the back end in a storage cloud. The prohibitive cost of large amounts of Internet bandwidth is by far the top roadblock to the widespread use of cloud storage for mission-critical applications." Before choosing a SaaS-based BI services vendor, negotiate access to the vendor platform in order to conduct benchmarks using non-trivial data volumes and query traffic. Although time consuming, the extra due-diligence could mean the difference between user acceptance and rejection.

##### CONTRACTUAL CONSEQUENCES OF PROLONGED

**UNAVAILABILITY:** Does your company have legal recourse or receive financial compensation if

a cloud based service goes down? What would happen to your business if the system was unavailable for 2 hours? 5 hours?

**RAPID SUPPORT RESPONSE:** This is again a contractual issue, subject to negotiation with financial consequences for non-performance in a co-location setting. When dealing with a multibillion dollar enterprise like Amazon or Google, what are the chances that your company will be able to negotiate a suitable support response contract?

**BEST OF CLASS SECURITY:** Given the legal liability and reputational risk that co-location vendors would be exposed to if a security breach occurred at their facility, vendors tend to implement best of class security, both physical and electronic, perhaps much better than your company's internal security. Again, DI in a contractual relationship with the co-location vendor, specifies and monitors security arrangements. With Amazon, you are in a "trust-me, take-our-security-or-leave-it" relationship where you have no influence over security specifications.

##### CO-LOCATION IS A MATURE INDUSTRY:

With respected service providers such as Internap in business long before the term cloud computing even originated, their capable experts have years of experience dealing with issues ranging from security to scalability, across thousands of individual customers.

**PHYSICAL PROXIMITY TO FACILITY:** For BI vendors such as Dimensional Insight that provide or configure their own hardware platforms, close physical proximity to the co-location facility is a key requirement. With cloud based vendors such as Amazon, physical access to their facility is not an option.

## SUMMARY

SaaS-based BI is an increasingly viable option for companies wanting to jump start or expand the reach of self-service reporting and analytics initiatives. Delivering significantly faster implementation times, lower TCO, and ease of scalability, the SaaS delivery channel can make pervasive BI a reality.

Due diligence pays big dividends when selecting a BI service provider. Start by answering these questions about your company:

- How critical is a multi-hour service outage to my business?
- What level of security does my data require?
- Then ask the following questions of each prospective BI services vendor:
  - What is and is not negotiable in the SLA?
  - Is their SaaS-based BI platform co-located or cloud-based?
  - Is the subscription based on bandwidth and data volume consumed or is it a fixed monthly rate?
- What are the legal and financial consequences of service outages?

## REFERENCES

- <sup>1</sup> Is On-Demand BI Ready for Prime Time? Scott Opitz, June 24, 2009. <http://www.altosoftcommunity.com/>
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- <sup>3</sup> Cloud Storage: 5 Good Deals And 3 Risky Propositions. Randy George, Information Week, October 18, 2008. <http://www.informationweek.com/news/services/storage/showArticle.jhtml;jsessionid=0K212GKK2A3ZCQSNDLRSKH0CJUNN2JVN?articleID=211200905&pgno=1&queryText=&isPrev=>

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