

Future-Proof Deployment

Online Insight's Market-Revolutionizing Software Technologies

This white paper describes the technologies underpinning the enterprise software solution suite that Online Insight™ offers today in its Fourth Generation products, and explains how our enterprise-class software systems take software “abilities” to new levels. These abilities include: scalability, reliability, maintainability, ability to integrate, adaptability to future technology advances, and ease of customization.

These technology underpinnings push the value of Online Insight's solutions well past the software's core business value propositions of dramatically increasing sales and marketing effectiveness through real-time, first-hand Collaborative Customer Conversations™ based on personal preferences. They add the Total Cost of Ownership (TCO) benefits of **protecting each customer's investment** in Online Insight's solutions as technologies and business needs change. We have “future-proofed” our systems by incorporating “best in class” technical differentiators and ease-of-use, thereby minimizing costs of owning, running, integrating, and changing them over time.

These systems are designed to stay in alignment with business needs.

All Online Insight, Inc. solutions are built in Java within the J2EE programming framework, offering the strong advantages of cross-platform deployment, a non-proprietary nature for future extensions and maintenance, as well as standards-based interfaces to common business integration technologies including web services/XML, EJB/session beans, message queuing, and other standardized formats and connectors. This applies to the entire eMpower Suite™ including eMpower Motivations™, eMpower Sales™, eMpower Distribution™, and eMpower Enterprise™.

This paper will start with a list of the high-level technical benefits our software solution suite provides, which may be sufficient for the casual reader. This is followed by a more detailed treatment of these topics.

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To accommodate the needs of various readers, we have provided a “quick-reference” list of technical benefits below. This list summarizes the key points that will be expanded in subsequent sections.

Top, Highest-Level Technical Benefits

- 1 Highly Scalable (with a wide variety of near-linear scaling options)
- 2 Open, Flexible, Component-Based, J2EE Architecture
- 3 Interface Independent (web, call center, integrated system...)
- 4 Multi-Channel Platform (Internet, kiosk, branch/store...)
- 5 Secure (Java and web-based security standards)
- 6 Available and Reliable Operation
- 7 Database, Hardware Platform, and Operating System Independent
- 8 Compatible with Standard Web and J2EE Application Servers
- 9 Seamlessly Integrates with Existing Systems
- 10 Leverages Open Standards to Avoid Platform Lock-Ins
- 11 Fully Supports XML and Web Services
- 12 Reduces Total Cost of Ownership through Ease of Operation
- 13 Global (Multi-Language/Multi-Currency)

The primary take-away from this list of features is that the Online Insight solution suite is architected to be “Future Proof” against the inevitable changes that occur with and around any core transactional system. What we mean by “Future Proof” is that you will never have to replace or rewrite the Online Insight suite in response to common changes such as:

- Evolving business requirements requiring reconfigurations of Collaborative Customer Conversations from the Online Insight Suite
- Expansion of Online Insight's suite across additional sales and service channels (including external agents/brokers)
- Increasing concurrent user volumes
- Integration with external systems
- Adoption of new enterprise-wide architectural strategies
- Changing preferred hardware, operating system, application server, database, or web server vendors
- Technology upgrades to user interfaces, data storage, networking, hardware, operating systems, security...

The remainder of this document will provide further details regarding the technical differentiators presented above and how they “Future Proof” our clients' deployments of their Online Insight suite against inevitable changes; ensuring these changes are not only possible but also achievable with reasonable costs. First on the list is scalability, the potential to support increases to the concurrent load capacity for the implementation over time on a wide variety of reasonably priced servers and infrastructure software.

Scalability

Online Insight's products are architected as n-tier applications that can be run across clusters of machines (enterprise servers). This allows our customers to take control of their own destiny in deployments and in the expansion of their Online Insight solutions - within a single facility or distributed globally. Online Insight's solutions can scale cleanly and without realistic limitations in the following three ways:

- 1 Add processors to the machine(s) in a deployment cluster
- 2 Add machines to a cluster
- 3 Add parallel cluster(s) of machines

This three-pronged approach allows our customers to choose how they want to deploy and manage our solutions during the initial deployment phase or at any subsequent time the business finds it important to revisit previous hardware, operating system, database configuration, and/or network choices. This flexibility allows our customers to make their own decisions about the best and/or most cost-effective deployments of our solutions in their Information Technology environments. This is even more compelling when you realize that these deployments do not have to be symmetric or homogenous. As an example, enterprise servers do not have to be from the same hardware manufacturer or even run on the same operating system. Our J2EE standards-based applications run without porting on most modern hardware platforms and operating systems within the appropriate Java Virtual Machines (VM).

Online Insight's enterprise software solutions are "future-proof" in terms of scale because they can be deployed across clusters of servers at a size commensurate with the processing load initially anticipated and can be "scaled up" to meet future processing load demands. In addition, there is a great deal of flexibility in how this scale is achieved and later increased in terms of servers, server locations, and operating system platforms, allowing our customers to strategically manage availability, response-time, and throughput in the most cost-effective manner. Our solutions are built to maximize hardware platforms and hardware platform choice and minimize operational headaches and unnecessary cost.

Reliability

Online Insight's solution modules can be deployed redundantly across any number of machines within or across deployment clusters. This allows for several points of differentiation that can be grouped under the "reliability" category of enterprise software abilities, including:

- Reliability under unforeseen hardware or other failures,
- Reliability under unusually heavy or "peak" load,
- Reliability under inevitable system changes as the installation evolves and grows to best meet the business needs.

Reliable Under Unforeseen Failures

Certainly "real-life" Information Technology environments have unscheduled, unpredicted failures ranging from the hardware through the operating system. Power supplies may fail, motherboards may burn out, cooling systems may not be adequate, and operating system bugs buried deep in the code may surface. By allowing all system modules to run replicated across any number of server(s) in any physical location(s), we can provide you with effective strategies to mitigate the risks of unplanned outages. This applies at all tiers of the system deployment including the web-tier (for Internet channels), the application tier (serving Online Insight's applications to all channels), and the database tier (our suite is certified in sophisticated replication environments including Oracle Multi-Master Configurations).

Reliable Under Heavy Load

By allowing for load balancing through the practically unrestricted replication and distribution of our software modules, Online Insight empowers you with effective strategies to handle the largest conceivable workloads without significant losses in response time, while still remaining cost-effective. This flexible protection against the increasing loads of the future defends against that ever-lurking worst-case scenario of dropping “live” customer or sales-agent/broker sessions that are moving toward closed sales and revenue just because system load was peaking. Online Insight’s customers can fully leverage the clustering functionality within their chosen J2EE application server and change strategies as necessary over time.

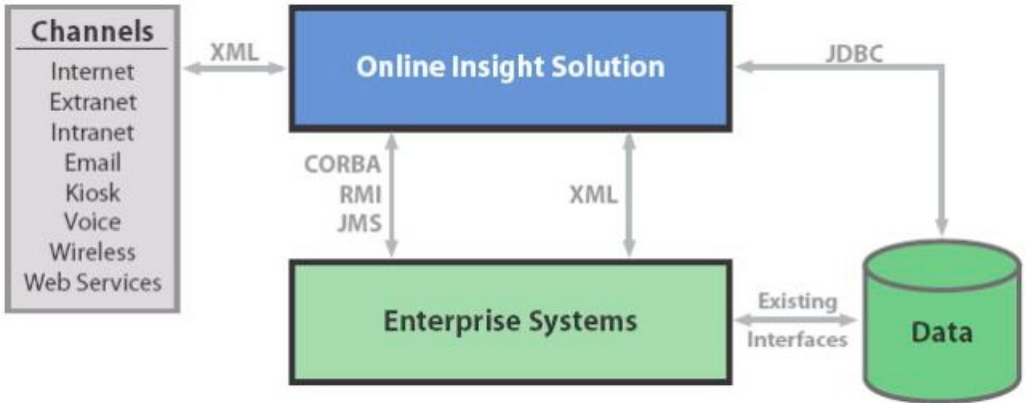
Reliable Under Change

Once any enterprise software system is up and running, changes will be required. These may take the form of supporting new customer or product segments, new interaction channels, new integration points with other systems, new natiivities (e.g. languages and currencies) due to globalization, and more. Our “future-proof” solutions remain reliable even as these inevitable changes are made.

Our J2EE software supports multiple languages and currency sets “out of the box”. If your organization acquires a company that happens to prefer the Windows operating system on its servers to your standard platform (perhaps Linux servers), Online Insight continues to perform. The software can also connect cleanly to new or modified enterprise databases and other data sources through standard protocols such as JDBC. Then, of course, the self-describing XML data structure allows for easy mapping of information across changing or alternative data stores and application interfaces with web services and XSL/T style-sheets and transformations.

Ability to Integrate

Online Insight’s solutions easily integrate into existing systems and interfaces to ensure “future-proof” support of the business’ sales and service interactions at every point in the customer relationship. Then, over time, they continue to support these interactions even as user interfaces, external systems, data repositories, and overarching technologies change. This section will briefly explain how this is supported by our software architecture.



Interface Integration

Online Insight's solutions are interface-independent. Any interface technology (websites, email, kiosks, voice interfaces, wireless devices, a web service) can use data interface standards to communicate with our enterprise suite of products to access their functionality. This means that eMpower Motivations™ and eMpower Buyers™ can deliver collaborative customer sales and service conversations through varied channels with different interface technologies, e.g. on the web, through the voice response unit, over a telephone, or over the desk at a branch with an agent. eMpower Distribution™ can deliver individual preference-based leads to sales agents through varied interfaces as well, e.g. a web browser on the Internet, a wireless device, or a web service to a connected laptop application. Finally, eMpower Enterprise™ can deliver real-time preference analytics to product development and marketing staff through a variety of channels as well.

Of course, it is often true that leveraging flexibility requires additional effort. Online Insight seeks to minimize that incremental effort in every way possible with “out of the box” options that are ready to go. For example, in the web channels – Intranets, Extranets, and the Internet – Online Insight's functionality can be accessed in one of three easy ways. It can be plugged directly into an existing website, accessed through our reference implementation that can be re-branded for the client as desired, or exposed programmatically through simple API calls to the Online Insight server(s).

Data Repository Integration

Integrating Online Insight onto external data repositories is made simpler in a number of ways. First and foremost, there is only one data repository that must be integrated for our product suite to provide immediate value – the product catalog from which real-time, first-hand preference-based product recommendations are made. Of course, the product catalog is not the only integration point that many of our customers build out over the lifetime of their Online Insight deployment. Clients may choose to integrate data warehouses, data mines, customer demographic information, and more. To make this as easy as possible, Online Insight can access data using standards (e.g. XML, JDBC) and supports off-the-shelf tools and techniques (e.g. XSL, XSLT, and graphical database management and reporting tools). This enables our solutions to rapidly take up residence on top of most modern enterprise data repositories. In short, Online Insight's enterprise solutions provide clean mechanisms to deal with many of the most complex information integration issues that enterprises face today. This is true both when our solutions are involved either as an information source (data coming out of Online Insight) or an information sink (data flowing into Online Insight).

This ability certainly increases the value of our solution suite. Easier integration of data repositories ensures that our customers can always integrate new information with a minimum of effort and expense, making our solutions “future-proof” against practical limitations on how our technologies can be leveraged in combination with other data collections.

External Application Integration

Online Insight also understands that there are other enterprise systems that you might want to integrate into our suite including, CRM solutions, ERP solutions, e-commerce suites, Executive Information Portals (EIP), etc. To simplify this process, Online Insight ensures that functionality, which can be meaningfully invoked externally, is made accessible using industry standards supported by off-the-shelf tools and techniques such as web services. This enables our solutions to support a wide variety of Enterprise Application Integration (EAI) infrastructures.

Easier integration of external systems ensures that our customers can always create new functionality over their existing technology assets, including our solutions, with minimal effort and expense. Our customers are not limited in future applications of our technologies across the business. The following is a brief list of some key standards and techniques that Online Insight's solutions support for system integration:

XML

Online Insight's suite offers Application Program Interfaces (APIs) for integration with other systems through J2EE session beans and/or web services based on XML. This makes it very convenient to integrate the latest versions of most enterprise software products from major software vendors who have also built out web services or other APIs.

Message Queues

Another common middleware technology today is queuing systems that allow one system to place a request in a queue for another system to process and perhaps return a result to the original system or another system, again through a queue. Online Insight's solutions support queuing environments through the JMS standard.

Non-Java Development Environments

Because Online Insight's solutions are open to XML, Message Queue, and other standards-based forms of system integration, we do not force our enterprise Java development standards on our customers. They can continue their work in other development languages (C++, Microsoft development languages, COBOL) that may be platform or application-type specific and still have the advantages of our best-of-breed solutions.

Ability to Remain Open to the Future

Online Insight has carefully chosen its best of breed technologies to ensure that our software remains "future-proof" as operating systems, messaging technologies, programming environments and more become obsolete and are replaced by the next evolution of technology. This is achieved by being "open" to new technical advances and standards, as the following sections of this paper will address.

Open to New Interfaces

Our solutions ensure that any interaction can assume an entirely new look-and-feel for any channel (e.g. web, wireless, call center, voice response unit, kiosk, and email) and for any enterprise, division, or locality across the globe with minimal effort. Our solutions can, in standards-based ways, deal with changes in: bandwidth, length of the customer contact, language, currency and more. Beyond the technical, we can support the creative side of the interface in quick-to-customize ways (e.g. changes in logo, colors, user-interface paradigms and more within our reference implementations).

Open to New Platforms

Written in pure enterprise Java, our solutions run on any platform with an appropriate Java runtime environment. This provides maximum flexibility in selecting hardware and operating systems to minimize purchase, operational, and training costs. This is important as hardware and operating system advances are rapid, and the ability to be agile as new options become available is critical. What compounds this issue is that many companies are growing through acquisition. This implies that a solution that runs not only on your own IT infrastructure but also on the previously unknown infrastructures of acquired companies is important.

Open to New Databases or Information Stores

Our systems communicate with databases through standard Java Database Connectivity (JDBC) or JDBC bridges to other standards such as Open Database Connectivity (ODBC). This allows the use of most databases, and certainly all enterprise-class databases. This again minimizes the operational requirements on an organization and provides the agility to select the most competitive software and hardware storage options at any point in time.

Open to New Data Elements or Entities

The Online Insight solution suite supports the addition of new data elements and data entities (e.g. add a color preference to a customer's dataset), without having to rebuild the software that processes these entities. So, as your information model changes over time, your Online Insight investment remains secure and your additional investment to manage these changes is minimized. Online Insight's solutions are not inflexible blocks of "hard-code" that do not adapt as your business, industry, and systems are forced to change. Online Insight's solutions transform themselves as you drop in new XML and related configuration files.

Ability to Customize

Online Insight's solutions can be easily tailored to your needs because of interface independence, the embodiment of standards, and the fact that we offer a configurable platform. To further simplify implementations, Online Insight possesses vertical-specific market research, reference installations, and experience to jump-start the customization process. On the deployment side, Online Insight's services team can support you at any level - from strategy through implementation - to ensure the best customer experience, a customized look-and-feel, and the best hardware cluster configurations.

Summary and Conclusions

Online Insight's solutions offer a breakthrough in sales, service, and marketing effectiveness that allows customers and companies to share their respective secrets – customer needs/preferences and complex product features/value – at the complexity, scale, and velocity necessary to achieve win-win business interactions in real-time. These solutions harness the power of unique, patent-pending technology to capture and analyze first-hand customer preferences. These preferences explain the WHY behind what is happening with your products and services in the marketplace... and it performs this NOW. Additionally, this enterprise software can be easily woven into the full IT infrastructure of a business of any size over time, or it can run as a point solution to provide immediate value. In either case, Online Insight's solutions run on a wide array of database, operating system, and hardware platforms to support the widest possible set of enterprise IT strategies.