OneStart – The IU Enterprise Portal – An Executive Summary

What is OneStart?

OneStart is a web-based enterprise service delivery framework that provides a unified access point to Indiana University information systems for everyone with business or activities to conduct with IU. OneStart is a user-centered portal, offering a wide array of services with the intent of developing a personalized campus community – a place to study, work, collaborate, and have fun!

OneStart has centralized security (requires one username and password for authentication) and provides content based on your role with IU (e.g., student, faculty, staff, alumni). Your OneStart page(s) can be customized and accessed by any of the standard web browsers. Like commercial portals, OneStart does not create or own the content or services it delivers, but helps the user access services and information from various organizations and departments. For example, America Online® (AOL) does not have a weather satellite system, but it displays weather information and allows its users to customize for their location. With one login, the OneStart user can have access to services and information from various campus groups and applications like *Insite*, *Oncourse*, and campus employment, as well as many other external providers, e.g., news, weather, sports.

OneStart provides publishing tools so service-providers can deliver services and publish information to specific groups of consumers in a consistent and easy-to-use format.

OneStart's infrastructure was developed using object-oriented and reusable standard modules. The infrastructure, known as EDEN (Enterprise Development Environment), allows new and existing services to be connected easily to OneStart. Applications share common infrastructure components to minimize redundant code across applications. Using an open architecture and standards-based technologies provides flexibility, scalability, and

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What is a Portal?

For the first generation of portals…

Portal is a term, generally synonymous with *gateway*, for a World Wide Web site that is a major starting site for users when they get connected to the Web or that users tend to visit as an anchor site. There are general portals and specialized or niche portals. Some major general portals include Yahoo!, Excite, Microsoft Network, and AOL. Examples of niche portals include Garden.com (for gardeners) and Fool.com (for investors).[1]

For the next generation of portals…

"Next generation" portals are emerging as single points of contact and community between enterprises and all of their consumers of online services. These portals must be highly scalable, reliable, and secure. Integration of business processes and information across multiple systems is key. A "built in" workflow mechanism automates and streamlines business processes. With the growth of mobile technologies, users can demand services and information wherever they are, whenever they want. The next generation of applications will be designed from the ground up to interact and collaborate with other systems. Information and services are better organized by allowing users to create their own custom views. [10]

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extensibility that will enable OneStart to grow and adjust quickly to changes. OneStart's strategic architecture ensures that each department and service provider can manage their own services and data independent of the portal framework and EDEN services.

Why OneStart? – Part of the IU Strategic Vision

OneStart is integral to meeting IU's strategic vision for information technology in the coming years and as a part of the university's challenge to "take the next step in institutional academic excellence and move into the very top tier of the nation's public universities." IU's OneStart portal represents one of the most advanced and visionary enterprise portal frameworks in all of higher education. OneStart was born in response to proposed actions set out in the Information Technology Strategic Plan.[6]

Working toward meeting these recommended actions, OneStart provides several core pieces of functionality for enterprise services:

- Single sign-on
- Role-based customization
- Personalization of user's desktop
- Open architecture for easy service integration
- Universal access via web browsers
- Channel and Group Page publishing
- Enterprise Workflow Engine

Information Technology Strategic Plan

ACTION 37: UITS, working with the users of IU's administrative systems, should develop a common interface environment that will support the efficient and effective accomplishment of the day-to-day administrative tasks of the University. UITS should develop a consolidated information delivery environment, leveraging technologies already in use and expanding on these with new tools.

This common interface environment should be implemented across all commonly used desktop computing platforms and operating systems.[6]

Why use OneStart?

Better Service
OneStart is designed to facilitate access to the services provided by IU. Did you know that IU currently has over a thousand[5] web pages that provide information and services to students, faculty, staff, and the public? Did you know that many of these pages require separate logins for access to services? Students, faculty, and staff must learn

how to first locate and then navigate each site to find the services they need. Many pages are developed independently and do not share information with other related services or pages.

The OneStart framework allows users to go directly and quickly to the service and information they need for their role or colleague group. It does this by enabling the user to access and select specific functions, services, or tasks directly. For new users (e.g.,

new students, parents), this means they don't have to learn the university hierarchy or terminology to find the service they need. The user's pages are customizable so that they can make the services they use most often readily available.

Eliminate Redundancy
Currently the university has numerous stand-alone information service "silo" web sites requiring different logins, displaying different interfaces, and supporting systems that can't or don't exchange information with each other.

OneStart uses a new Central Authentication Service (CAS) that will allow users to log into the portal and then access any of their authorized services without requiring them to login again.

OneStart has a Group Pages function that lets departments, schools, and other campus groups create customized pages for their constituents and provide personalized suites of service designed for them. OneStart used IU's Usability Lab to help develop interface guidelines that ensure a consistent look-and-feel and easy user interface for the user. The OneStart framework and infrastructure handles user authentication, information architecture, general navigation, role-based customization, individual personalization, and electronic document routing and workflow. This allows service departments to focus on the services, content, and information they need to provide to the users they know best. The user can

MBAA Resources Group Page

Bob Flynn of the Kelley School of Business has created and maintains a OneStart group page for students in the MBA program, with separate group pages for each graduating year.

These group pages provide resources and links for IU services and computing tools that the MBA students will need while completing their program. The pages also ensure consistent program information and news dissemination.

navigate comfortably and consistently through the available services. Application developers can focus their work efforts on their application's unique functionality, rather than recreating user interfaces and common features.
In OneStart, the EDEN workflow engine will facilitate routing electronic documents for completion, approval, and information. Through a universal *IN* box called the *Action List*, a user can access all documents requiring their attention.

In older systems, electronic documents existed in separate applications utilizing separate routing engines and separate *IN* boxes requiring the user to go multiple places to do all of their work. With OneStart, the user can go one place to access all of their electronic documents. For example, if a manager approves HRMS documents and Purchase Requisitions for his department, and authorizes travel, these documents are delivered (currently) via three separate systems. With a centralized workflow engine, OneStart will be able to display an *Action List* that enables the manager to process each of these different types of documents, plus many more, all in one place. OneStart is not replacing those individual services, but rather facilitating an integrated view of those "to-do" items regardless of the request's source application.

What Technology does OneStart use?

The OneStart infrastructure, EDEN – Enterprise Development Environment, consists of object-oriented and reusable standard modules upon which services can be built. EDEN is the underlying infrastructure that consists of service components such as workflow (automated routing and approval of electronic documents) that can be shared across applications in support of our mission to achieve a higher level of enterprise application integration.

OneStart and EDEN are written in Java. Since its initial commercial release in 1995, Java technology has grown in popularity and usage because of its true portability. Java applications can be delivered easily over the Internet, or any network, without operating system or hardware platform compatibility issues.[2] In addition, because Java is "open source" technology and is commonly used for development by other universities as well as many open source development consortiums, we are able to collaborate with other institutions and leverage the work of other developers, saving valuable time, money, and resources.

OneStart and EDEN services run on Unix-based web servers, application servers, and database servers. OneStart and EDEN data are stored in Oracle databases. Due to the open architecture of OneStart, web-based services deployed and hosted on other web platforms and written in other languages can be published and delivered easily via the OneStart framework. Even though the available services may be written in different languages and hosted on different servers, with the flexible OneStart framework and the use of Web Services technology[12,] they appear to be a seamless and integrated environment.

The OneStart architecture consists of three independent layers - user interface, business logic, and the data access. This allows for any necessary changes to be made to one of the three layers without affecting the rest of the application. This simplifies maintenance and enhancements. Components in each layer may also be shared by other applications to eliminate redundancy in the code base.

An independent and open user interface layer also presents opportunity for the future. As web-enabled mobile devices such as mobile phones, PDA's, and other handheld devices become more prominent, OneStart services may be dynamically rendered to accommodate these new kinds of devices allowing even more convenient access to services.

Services offered via OneStart will evolve and grow with each new release. The open framework insures that new services can easily plug in to OneStart. As the list of available services grows, OneStart becomes a more and more valuable tool for the students, faculty, and staff of Indiana University.

Is this just another "toy" for the IT department? Will it be something new next year?
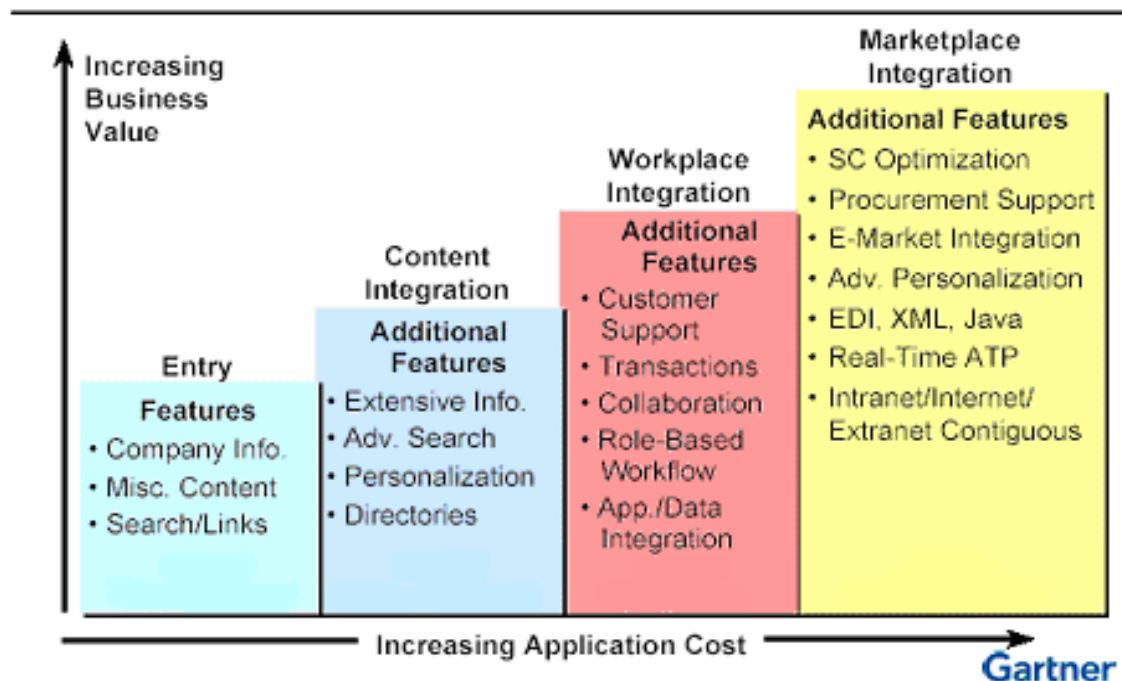
Industry Experts
The Gartner Group and other industry analysts believe it is necessary for large information and service providers to move their web sites toward enterprise portal service delivery functionality.

To solve problems in the present...

> *IS [Information Services] organizations have been pursuing several "Holy Grails" for years. Chief among them are a single user interface (UI) for users and single sign-on for applications. Enterprise portals provide both of these, so they will be highly desired within IS organizations. Because an enterprise portal uses the Web as its UI, any Web device on the network can access the portal.[3]*

> *The main thing that gets a customer into building a portal is thinking about how to provide users with more efficient access to the data and applications that are important to them...Portals are all about treating users as individuals.[7]*

Enterprise Portal: Four Phases

Increasing Business Value

Entry
Features
• Company Info.
• Misc. Content
• Search/Links

Content Integration
Additional Features
• Extensive Info.
• Adv. Search
• Personalization
• Directories

Workplace Integration
Additional Features
• Customer Support
• Transactions
• Collaboration
• Role-Based Workflow
• App./Data Integration

Marketplace Integration
Additional Features
• SC Optimization
• Procurement Support
• E-Market Integration
• Adv. Personalization
• EDI, XML, Java
• Real-Time ATP
• Intranet/Internet/Extranet Contiguous

Increasing Application Cost

Gartner

Source: Gartner Research

Enterprise portals will become high-volume Web sites for the enterprises that use them. Used internally, an enterprise portal will become the internal home page, serving up information and applications across the enterprise to all employees.[3]

Properly deployed, an enterprise portal can offer a compelling combination of functionality and ease of use. The value of the tool, however, is only as good as the abilities of the organization and individual employees to commit to the concept, maintain the underlying information, and support the enabling technology.[8]

… and lay the groundwork for the future…

Enterprise portals can greatly facilitate the RTE [Real Time Enterprise]. They support strategic goals and allow for the establishment of finer-grained, better-tailored operational goals. Enterprises that don't use a portal for their RTE initiatives will find increased costs and reduced effectiveness[9]

Through 2005, Webtops will replace desktops for certain job functions, but for knowledge workers, Webtops will supplement, rather than replace, desktops (0.7 probability). By 2005, the mass deployment of mobile and wireless devices and the ubiquity of portals will allow Webtops to replace desktops on a massive scale for all classes of workers (0.3 probability).[3]

Enterprise portals will become a key enabler of Webtops. The Web device used in this paradigm will communicate with an enterprise portal, either operated internally or outsourced to a netsourcer. As such, the enterprise portal becomes the server in a Webtop environment.[3]

How can I Learn More about OneStart?

Now that you know the basics of the OneStart portal, are you ready to start taking advantage of its services? If you have an IU Network ID and password, you can access OneStart right now! Go to https://onestart.iu.edu/ and use your IU Network ID and password to access OneStart and the initial default page for your role (e.g., staff, student, etc.).

If you or your group would like to have your services accessible through OneStart, begin by talking to the OneStart project team. Contact the team at onestart@indiana.edu.

Footnotes

1   TechTarget, Inc. (2002)
http://whatis.techtarget.com/wsearchResults/1,290214,sid9,00.html?query=portal

2   Sun Microsystems, Inc. (2002) http://java.sun.com/java2/whatis/

3   Gartner Group. October 2000. Enterprise Portals – Growing up Quickly.

4   World Wide Web Consortium (W3C) (2002) http://www.w3.org/XML/

5   UITS, Webmaster, 2003.

6   Indiana University. May 1998. Information Technology Strategic Plan, Architecture for the 21st Century.

7   IBM. March 13, 2002. IBM Taps Portal Partner, Readies New Release
http://www.internetweek.com/story/INW20020313S0004

8   Association For Services Management International (2001)
http://www.afsmi.org/journal/frameset.cfm?articleID=feb01

9   Gartner Group. September 2002. Using Portals as Gateways for the Real-Time Enterprise

10   eAI Journal. February 2001. Portals: Business on the Network Edge.

11   President Myles Brand in his 1997 speech, "State of the University: The Next Step," set a challenge for Indiana University to "take the next step in institutional academic excellence and move into the very top tier of the nation's public universities."

12   CIO. April 2002. The Promise of Web Services.
http://www.cio.com/sponsors/041502ws/webservices.pdf