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## Offshore Outsourcing: Capitalizing on Lessons Learned *A Conference for Thought Leaders*

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## **Osellus Inc.<sup>1</sup>**

### **Multi-shore Outsourcing**

This case study deals with issues involved in a Sun Microsystems project executed by Toronto-based Osellus Inc. Information Technology (IT) using a Multi-shore Outsourcing approach. This approach involves splitting the off-shore work on a project into work packages implemented by teams located in Canada as well as multiple locations in Asia. Managing the off-shoring of software development projects in multiple low cost locations in Asia can be a challenging prospect.

The case also illustrates the application of an open standards approach to the management such projects. The development of such open standards makes it possible for relatively small teams in geographically dispersed location to cooperate in complex software projects. We examine the various issues involved in such projects from diverse points of view – customer, intermediary & the supplier.

#### **Osellus Inc.**

Osellus is a software product company founded in 2002; it has 75 employees located in four offices in Toronto, California, Bangkok and Manila. The company's headquarter is in Toronto, Canada. The core product of the Company is IRIS, an enterprise application that enables software development organizations to automate their end-to-end software development processes. Osellus Professional Services (OPS) provides services in process consulting, IRIS implementation and execution of process centric software development for clients. Software development continues to be a complex undertaking and effective management of the underlying processes is both critical and challenging. The product was launched at JavaOne in June 2003 as the industry's first standards-based process automation system.

#### **The Customer Problem Addressed by SPEM**

Software development is intrinsically a complex undertaking. This complexity grows exponentially with the increasing size of the application being developed and as the organization starts to consider the prevailing outsourcing and offshore development models. Developing a software product that meets even a moderate level of time-to-market, quality and cost goals requires coordination of hundreds of activities and deliverables amongst many talented and highly-paid professionals. During all these activities mistakes do occur, and that too frequently. When they do, they have significant implications on the project timelines and the project financials.

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<sup>1</sup> This case was written by Ashish Agrawal under the supervision of Professor Joseph D'Cruz. It was prepared solely as the basis for class discussion and is not intended to serve as an endorsement, source of primary data, or illustration of effective or ineffective management. The development of this case study was supported by a grant from Industry Canada.

Mr. Aditya Jha, Founder & COO of Osellus Inc. says:

“Sound and smooth process management is an essential pre-requisite for - incorporating a development methodology into practical use, deploying continuous quality enhancement programs, introducing a cross-functional context leading to optimum use of developer tools, and above all, remaining agile as an organization. Manual methods of process enactment through documentation and training are expensive and precariously unmanageable. A process automation system would help the development organizations model, enact and monitor their end-to-end processes among teams spread around the world and further, have a direct positive impact on the organization’s quality, cost and time-to-market objectives.”

Mr. Jha saw opportunities of applying the business model of Multi-shore outsourcing in small and medium enterprises in Canada. Please refer to the appendix for an internal document produced by Osellus Inc that highlights the benefits and the ideal modus operandi for a small or medium enterprise to apply a this approach.

## **Product**

Osellus’ main product is IRIS, a SPEM - Software Process Engineering Meta-model standard based application specifically designed to automate software development processes. Software development organizations use IRIS to model (create), enact (enforce) and monitor their development processes over the course of the entire project. IRIS operates across the complete product development life-cycle. It interfaces with day-to-day development tools as well as with the software development methodologies, frameworks, and hence becomes the common foundation layer in the application development. In a typical implementation, all members of the development team interface with IRIS. This includes all practitioners (analysts, developers, testers, etc.), development management and executives, and project/program managers.

IRIS is available as a service or for installation on customer’s server. IRIS is suitable for the offshore outsourcing business model.

Partial or complete outsourcing of software development has been increasing significantly over the past couple of years. As a result, customers’ processes inevitably involve processes that span across multiple organizations. Among other things, such outsourcing organizations demand process automation solutions that can accommodate multi-organization distributed teams, support for Service Level Agreements (SLA) and provide visibility into the service provider processes.

## **Multi-shore development with IRIS**

Mr. Chandra Bhopale, Business Development Director at Osellus Inc. says:

“In order to achieve high quality software product development at lower costs, Osellus adopted a multi-shore, process centric software development approach. The Osellus development teams are located in Toronto, Bangkok and Manila. The management believes that many software engineers have a strong attraction for working for software product development companies. Acting on this inclination Osellus has managed to attract the best software professionals in each of these three locations. Osellus employees are highly motivated, they work on product development, and they are constantly appreciated for their achievements and offered the opportunity to apply leading edge technologies in their day to day work. The process centric development leveraging automation tool, IRIS ensures that the end-to-end product development is very well coordinated while maintaining high quality standard at lower costs and overheads. Also the individuals get a sense of being a part of the same team even though they may be located in different parts of the world.”

The work is distributed among the Osellus technical teams as follows:

- Toronto: Analysis, Architecture, Design, Process Consultants
- Bangkok: Developers, Quality Assurance (QA)
- Manila: User Interface (UI) Development, Online training development

Toronto team’s responsibilities include:

- Interpreting customer requirements
- Provide process consulting to end customers
- Create system requirements and design
- Implement IRIS for customers
- Develop suitable end-to-end processes for software and online training
- Design a curriculum for training end users in IRIS
- Coordinate the preparation and delivery of the training material
- Train the distributed teams on enactment of processes using IRIS
- Coordinate with the off shore development team to ensure their full understanding of the requirements and design

Bangkok team’s responsibilities include:

- Develop code according to requirements and design
- Unit and system testing
- Response to online issue tracking system

Manila team’s responsibilities include:

- Design and Develop UI code according to requirements and design
- Unit testing
- Develop online training

In discussions with Mr. Bhople, he said that the following benefits of this approach have become important for clients

1. Scalable process centric development at lower costs: Using IRIS and distributed locations such as Bangkok, Manila and Toronto, it is possible to scale up the required resources and skills at reasonable costs. Since the teams work around a selected process, it enables on time delivery of projects while maintaining high quality and lower costs.
2. Process awareness in the development team: The development team members are experienced in using processes with minimal overheads. The web-based IRIS tool makes just-enough processes a reality and provides additional capabilities such as access to guidance, updating the activity status in real time and posting notes and issues.
3. Increased visibility and higher control on projects: Osellus has significant visibility, higher degree of manageability for its product development and online training projects. IRIS ensures that the practitioners are following prescribed development processes. Real-time enactment of processes using IRIS process automation tool governs the development of the software code for the project all through its software development life cycle.
4. Easier acceptance of process by developers: Until now software developers have found it onerous to follow regularly any software development process and methodology as the traditional manual process environment makes it a tedious task and creates extra work. However once the software development process is automated, the entire exercise becomes invisible though ever present and practitioners get a just-in time help that guides software development activity. Process centricity is internalized in the entire software development life cycle.
5. Potential to increase revenues from other product development companies: Due to the successful deployment of multi-shore process centric software product development, it now presents an opportunity to provide similar capabilities to other product development companies, especially to small and medium enterprises (SMEs).
6. Faster induction of new team members: The online training and clear access to the activities, work products and guidance using IRIS allows new team members to become productive within short time and with minimal training.
7. Reduced dependability on individual employees as process is the core: Since practitioners follow the process, the success of projects does not depend upon any specific individual and hence risk is significantly reduced in case an individual employee decides to leave Osellus at any point of time in the project.
8. Knowledge management: Codification of the knowledge and experience in all projects is used for training as well as for increasing the success rate of future distributed software product development projects thus resulting in to organization wide productivity gains.

## **Sun Microsystems, China: Project outsourced to Osellus Inc.**

### **Sun Microsystems, China**

Sun Microsystems, China is a wholly owned subsidiary of Sun Microsystems, Inc. (NASDAQ: SUNW) According to the parent, “since its inception in 1982, a singular vision – “The Network is The computer” – has propelled to it into its position as a leading provider of industrial-strength hardware, software and services that make the Net work.” Sun can be found in more than 100 countries and on the World Wide Web at [www.sun.com](http://www.sun.com)

### **The Project**

CNS, a division in Sun Microsystems, wanted to create the next level of value add-on service by registering and tracking those users of Sun software (such as Solaris, Java Enterprise System, Star Office etc.) and thereby create a relationship with potential customers for services such as remote diagnostics. In order to achieve the desired functionality the current Product Registration tool needed rewriting on a later generation platform supporting SOA architecture. The registration tool would become a key component for CNS and expected to contribute significantly towards achieving the objective of building indirect revenue for Sun software offerings.

The product functionality was well defined at the macro level, but there was some degree of uncertainty about some new features, as it involved major changes vis-à-vis the previous version and of course code rewriting. The internal organization that supported the development of this product included Sun Microsystems, USA for overall requirements and architecture, Sun Microsystems China was to execute low level design, product development & product testing. It was expected that the project will require about 20 people working for about 8-10 months.

### **Resources required for the project**

It was challenging to use Sun’s traditional approach of project staffing with permanent employees because of ongoing staffing restrictions; it was not practical to build the teams quickly both in China and in USA. Management wanted to avoid the common problem of project-based recruiting of permanent employees that add to the fixed costs and continue even after the projects are completed. Shortage of skilled professionals and short product cycles posed additional constraints. It is also important that the new Registration Tool become available as soon as possible so as to quickly build the indirect revenue streams. All these put together prompted the management to look for an outsourcing partner.

It was necessary to find a solution that would provide the right resources at the right time without incurring extra costs and by leveraging an offshore product development model. It was very important to find an outsourcing vendor which not only had the right resources but also had the experience and discipline necessary

for successful product development. Vendors who work in staff-augmentation mode were not considered as potential partners.

**Key considerations in choosing an outsourcing partner:**

- Partner’s understanding of the project requirements
- Application of cost effective and flexible model
- Trusted partner who understands and implements the IP protection requirements of product companies
- Availability of appropriate product development resources
- Willingness to work on a long term basis and is familiar with Sun’s products and corporate culture
- Good degree of corporate level alignment

**Why Osellus as the outsourcing partner?**

After careful evaluation, Sun selected Osellus as the outsourcing partner. The Sun team is located in many global locations and Osellus has substantial experience of developing enterprise class software product in multi-shore mode in locations such as Toronto, Bangkok and Manila. Osellus has developed IRIS - a process automation tool based on SPEM (software process engineering meta-model) standard from OMG (Object Management Group). This aligns with Sun's strong support of industry standards and community processes.

IRIS describes a software development process or a family of related software development processes for complex product development that enables the structuring of product development work around a chosen process. Sun has a number of strong process frameworks which are specific to its own development practices.

According to Mr. Omid Afnan, Senior Director at Sun Microsystems Osellus was selected as the outsourcing partner for the following reasons:

1. Osellus Inc. is one of the few SPEM based process automation solutions providers, based in Toronto, with a much better understanding of the processes as process management is their core business activity. They had a competitive advantage for managing complex processes such as those involved in development of the Registration Tool.
2. Osellus is not a very large vendor hence:
  - a. It was easier to build a close relationship and ensure that the work from Sun Microsystems was always given high priority by Osellus.
  - b. Large vendors have their own strong corporate culture & best practices which can become a hindrance as these vendors cannot change their culture easily. On the other hand, smaller companies like Osellus are much more flexible and are willing to adapt much faster to customer’s work culture and best practices.

- c. Smaller companies have lower overheads, and hence lower prices, so Sun would benefit from cost savings for development, after sale service contracts etc.
  - d. Sun Microsystems being a much bigger company than Osellus Inc., Sun could benefit by exercising its position to its advantage with Osellus which may not be possible with bigger vendors.
3. Osellus has product development team in Bangkok. Because of similar time zones between Bangkok and Beijing, it is much easier for Sun Microsystems, China to work with Osellus team in Bangkok. Since the project involved new development it was important that the Osellus team was able to respond to queries within short time spans.
4. Since Osellus' corporate office is located in Toronto, it was easier to have corporate level relationship in North America and work mutually acceptable contracts within a short time.
5. Unlike large vendors doing business with large number of customers, Osellus did not have backlog of many customer projects and hence could ensure timely delivery of project deliverables to Sun Microsystems.
6. Sun had positive experiences in the past while working with the Osellus team members.

### **Implementation: Multi-shore software development**

Teams participating in the project were located at different locations such as Bangkok, Beijing and Toronto; it is believed that in addition to remote communication via teleconference, emails and web conference; face to face interactions are invaluable for success of the project. As an example, Sun China team was predominantly comfortable with Mandarin language. Osellus sent team leads from Toronto and Bangkok who could speak both English and Mandarin which helped in establishing sound communication between the teams. Then there was time difference to be managed between teams in Toronto, China, Thailand, and USA.

### **Project organization structure:**

Following roles were reporting to Mr. Afnan who is based in China

- Sun USA: Internal customer
  - Program Manager
  - Software Architect
- Sun China: Responsible for delivery and part of the design and development
  - Project Manager
- Osellus: Offshore development partner

- Project Manager

## **Project timelines**

The project was divided in four (4) phases as described below:

### ***Phase 1: Development of processes***

- Process scoping to understand the process needs for specific project types
- Development of customized processes to attain the set objectives
- Simulation to ensure completion of process development prior to deployment
- Process Implementation including training and roll out plans

### ***Phase 2: Project Analysis***

- Analysis of Sun's projects to understand and prioritize the features to be developed for each project.
- For each project, review customer requirements and understand existing products (for enhancement project).
- Work closely with Sun to plan out the exact scope of each of the four iterations. This planning required inputs from Sun in terms of priorities, approval and detailed estimates.
- Complete system analysis tasks and deliverables for the first iteration. Deliver analysis work products such as feature set overview, use cases, and external interface mockups. These work products must have prior approval by Sun Microsystems representatives prior to start of this iteration in Phase 3.
- Once the previous iteration has started, the analysis work of the subsequent iteration will start in an overlapping mode. This will allow implementation of the first iteration.

### ***Phase 3: Implementation***

This phase consisted of one month development cycles each of which result in working versions of software with additional features being delivered in each cycle. This is based on an iterative, feature-driven approach to software development. The cycles may be applied to one project or across two projects. If two projects are pursued then the work will be done in parallel using two teams as much as possible. The major tasks involved the following activities:

- Complete system design of the iteration and produce design document and coding guidance.
- Complete coding as per Osellus coding standards, which include unit testing. For complex tasks, developers will be developing unit test cases to conduct unit testing.
- Perform integration testing
- Perform formal testing - by Osellus test team
- Sun Microsystems to perform user acceptance testing

#### ***Phase 4: Knowledge Transfer***

This Phase will include transfer of information and lessons learnt by Osellus to Sun teams including definite deliverables for process and code documentation, and training.

#### **Product Development Process**

The Canadian Osellus team was responsible for formulation of this project plan and the process definition. In the later stages, the Canadian team would graduate to the monitoring project progress using the process monitoring tool.

The process considered the following criteria:

- Deliverable every 30 days
- Agile approach

There are two questions that need to be answered for any project team:

- What is the software development process for this team?
- What is the most suitable project management process for the project?

It was important for Sun that software development and management process did not end up as binders on book shelves and that the process was followed by the employees in their day to day working. Sun wanted to avoid a situation where the employees may not be following the most appropriate process for the task at hand. In the absence of a process, it could be a challenge for the project manager to get to the root of the problem in order to fix the problem. Given well defined processes and an appropriate tool to implement the same, the project manager could steer the team and its processes towards the best practices by discussing with the team members and making them realize the importance of following a selected process to achieve better results without unnecessary delays.

Even though setting up best practices was not high on the priority list for this project, Sun's main interest in having a well defined process and its enactment was to accomplish the following:

- Find out if practitioners are doing the work according to the defined process
- Get the status on work done by project team members on a day-to-day basis
- Find better ways of doing the work, if any
- Discover optimum way of setting up teams

Using the IRIS tool, Osellus' process consultants developed a process suitable for the Registration Tool development incorporating Sun's best practices. At the early stage of the project, Osellus' team lead in Bangkok and Process consultant from Toronto visited Sun China to establish communication channels, understand

development requirements and to train the Sun internal project team on using IRIS for process enactment.

### **Development & Testing**

Osellus set up a development team of 8 software engineers in Bangkok to initiate the process centric product development. Osellus availed many benefits by performing development via their own team in Bangkok.

- Introduction of IRIS tool to Sun's internal team for the very first process centric project had higher risk while Osellus' development team in Bangkok was already familiar with IRIS and process centric development. Osellus project manager from Bangkok could easily visit China to train the Sun internal team.
- Osellus could also provide follow-up services & process management tools.

During the development and testing, because of the proximity between Bangkok and Beijing, it was easier for Bangkok team leads to visit China to improve coordination between two teams and ensure that Osellus team in Bangkok was delivering according to the customer expectations. With the Toronto team it was easier for Osellus to work with Sun's architects and business analysts located in North America.

### **Current status (as of end September, 2006)**

First three (3) phases of the project have been completed on time as per the project timelines. Osellus and Sun are preparing for the last phase during which the lessons learnt and knowledge acquired about the process tailoring and the process centric development could be transferred to the Sun team so that future product development projects within Sun could utilize these experiences in future multi-shore process centric product development projects.

In discussion with Osellus personnel about this project the following were the salient lessons learnt by them over the course of this project:

#### **Positive:**

- *Product development experience:* Sun being a product development company found it easier to work with Osellus who has developed a process management and automation product and intricately understood product life cycles.
- *Ability to plan and execute the desired process for project:* The ability to plan desired work using IRIS which is dedicated to managing the processes for software development. It also helped track the work being done at different locations and stages of the project.

- *Easier adoption by practitioners:* Using IRIS, it was easier for practitioners to access the process and adopt the process in their day to day working.
- *Work Duplication avoidance:* In the long run, using the process management tool, all the teams were able to avoid duplication of work even though they were scattered in diverse locations in different time zones, and thus improving the overall efficiency of work.

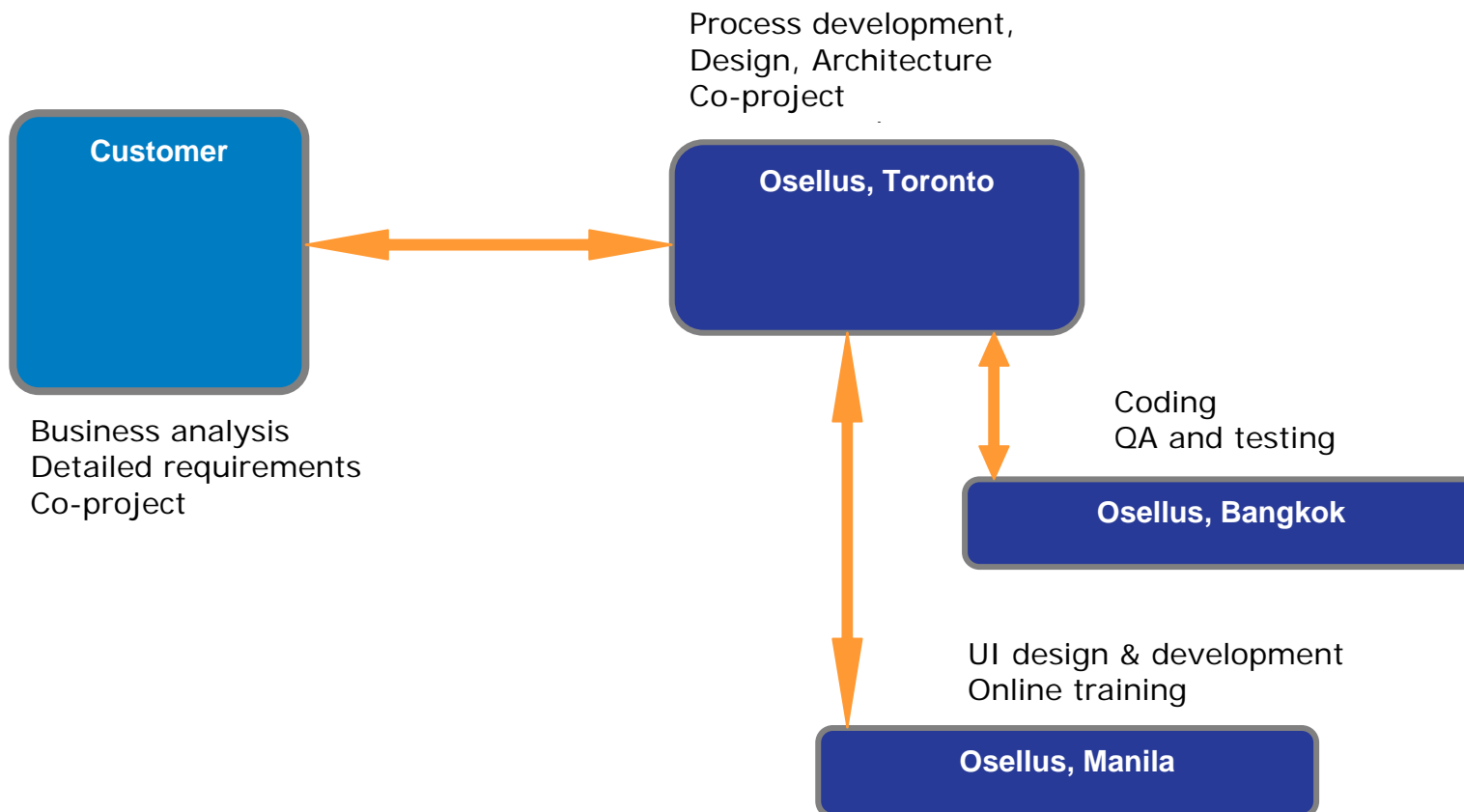
**Areas for improvement:**

- *Resistance to change:* Adoption of the new way of working around a process was slow for the team in Sun China as now each member had to think in advance about the work being done and how it fitted in the bigger picture. Team members had to verbalize the work, record everything they were doing by updating daily logs of their activities that would allow the project managers to find weak areas in the process and would contribute to enhancing the best practices of the company.
- *Distribution of work among teams:* Partitioning of work between the teams in order to extract the best from each individual and avoid any duplication of work was a challenge at the start of the project and needed some reevaluation during the course of the project. This became even more important as some of the work packages were tightly coupled creating a challenge to assign the work to a team external to Sun.
- *Managing changes:* This project's architecture was part of a much larger architecture which itself was changing and hence this project was a moving target

## Exhibit 1

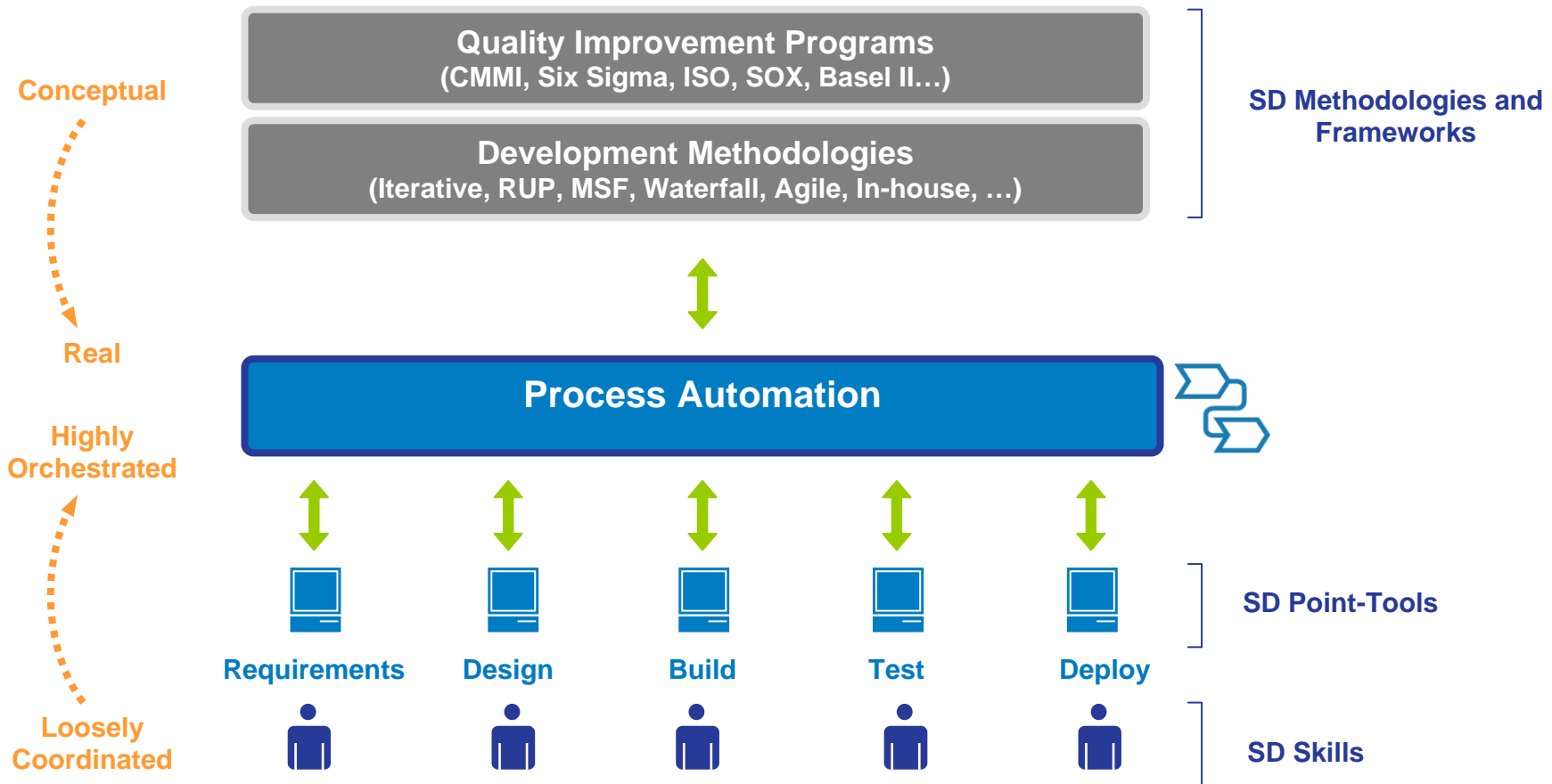
### Multi-shore product development

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## Exhibit 2

### Process Automation



## Exhibit 3

### IRIS Process Automation Suite

IRIS is a scalable enterprise application suite focused on automating software development processes. IRIS suite consists of three independent but related applications

#### IRIS Process Author

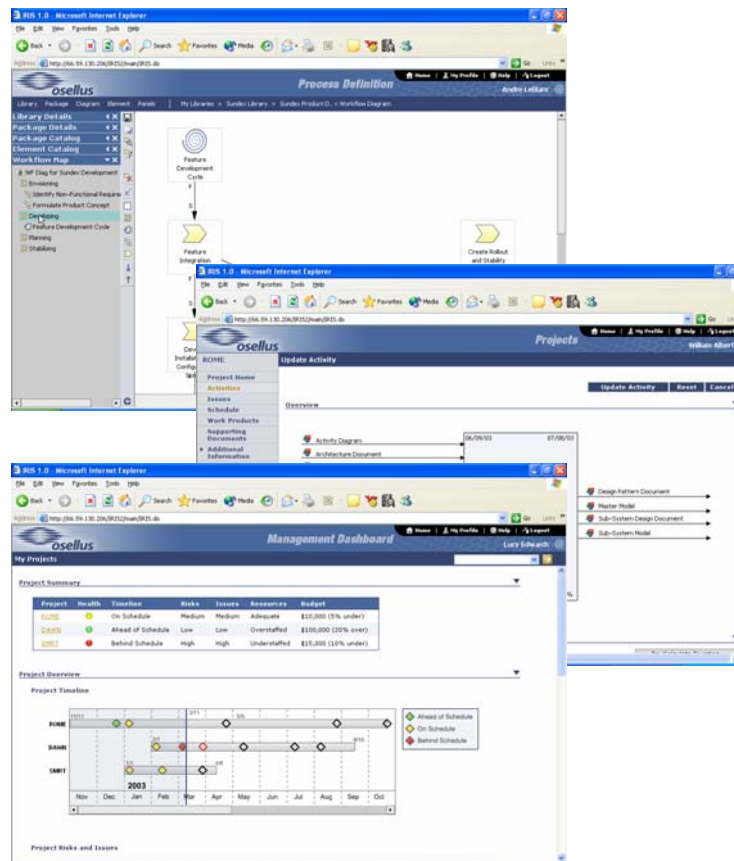
Model, tailor, validate and publish your software process

#### IRIS Process Live

Enforce the chosen software process in a non-intrusive manner

#### IRIS Process Metrics

Monitor process deviation and other process metrics



### Exhibit 4

## Process Automation with IRIS

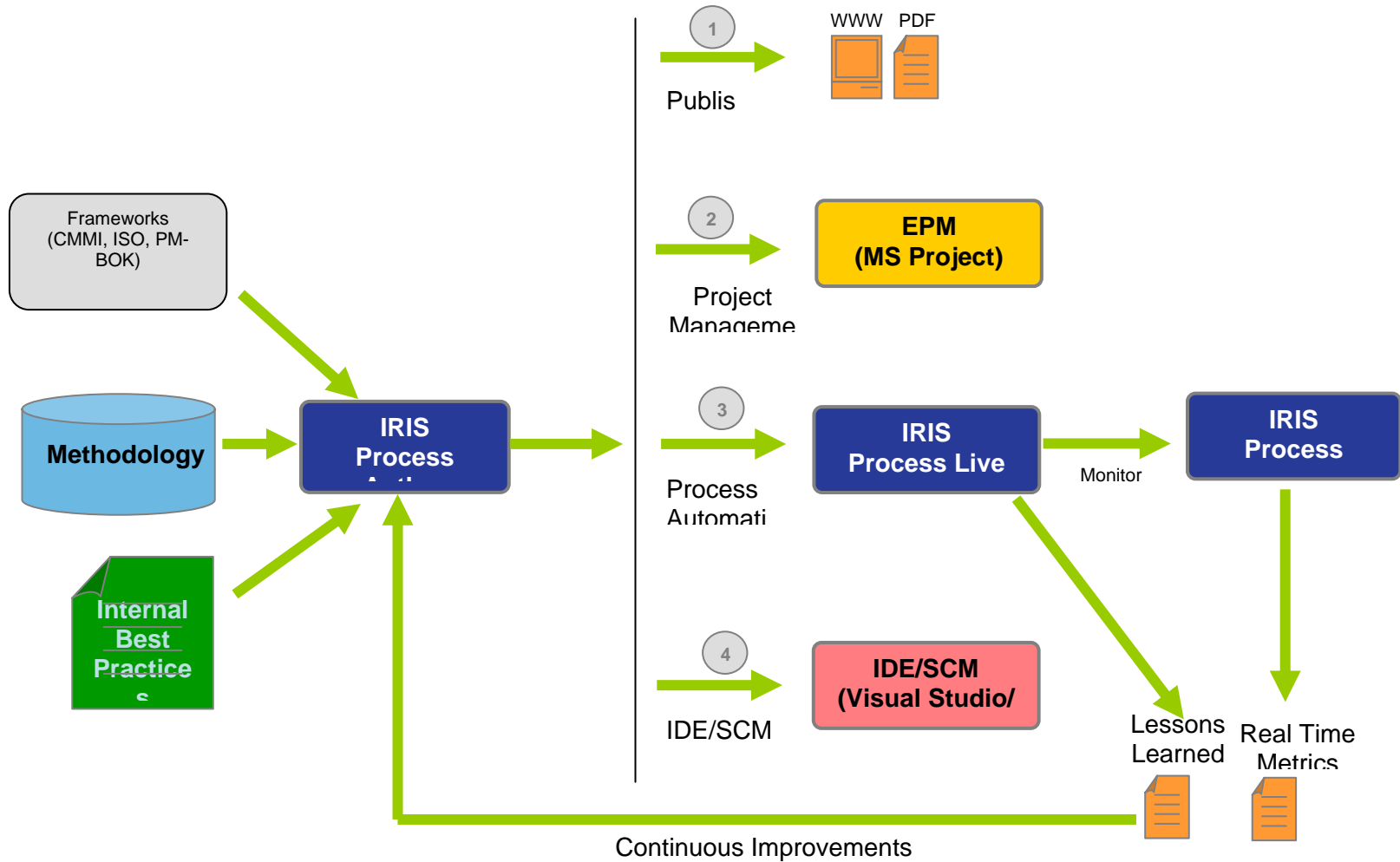
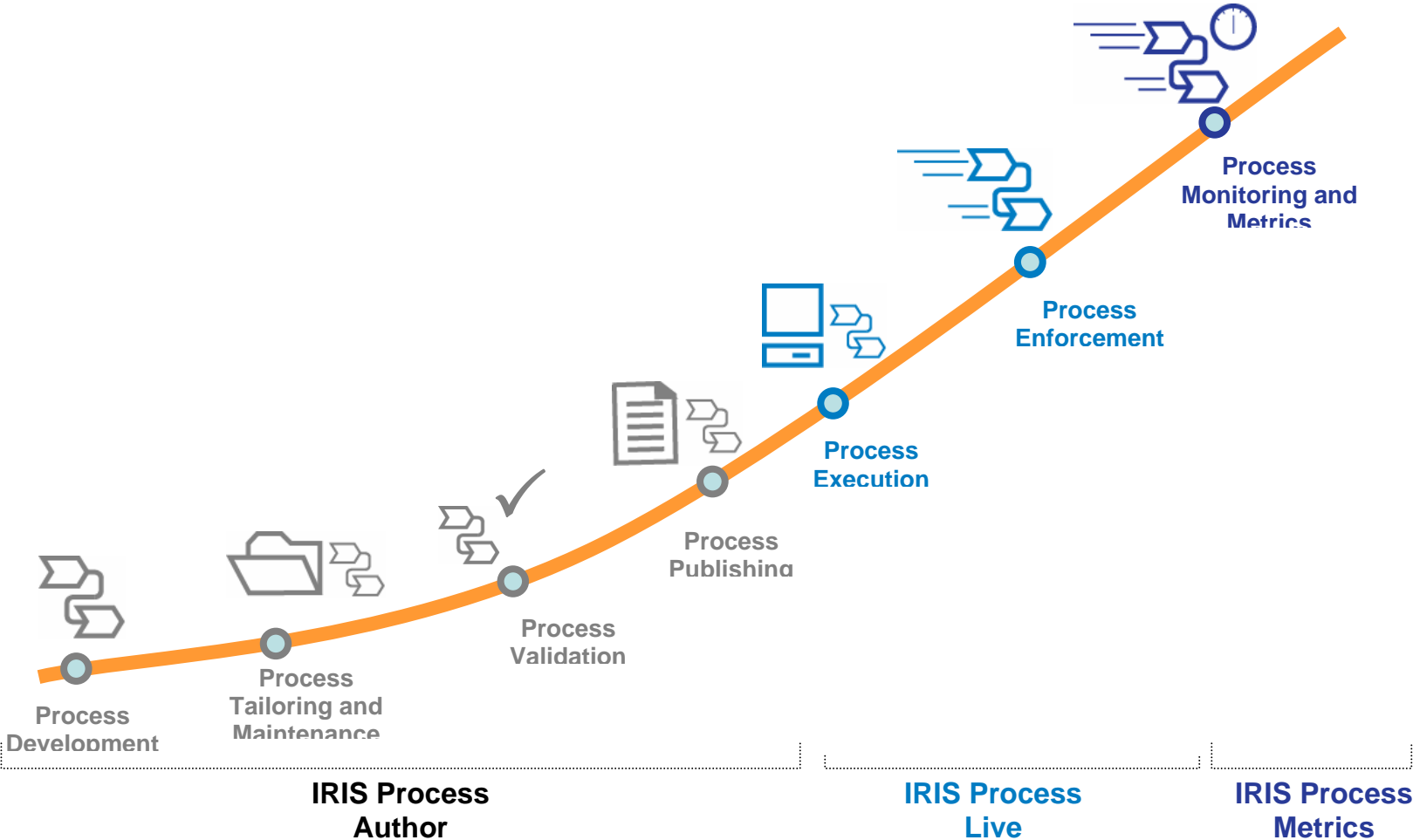


Exhibit 5

**IRIS Stages in Process Automation**



## Appendix

### Osellus Inc.

#### Approach to Offshore outsourcing for Canadian Small & Medium Enterprises<sup>2</sup>

##### Current scenario

Unlike the IT services industry, which has witnessed rapid growth, outsourcing of software product development has remained low key. Many product development companies use cutting edge technology while building their products. Product development requires different skill sets and the majority of the IT outsourcing vendors do not have the right resource mix, engineering process rigor or product development pedigree to deliver on high tech product development. On the other hand, software products have become an increasingly important part of the global economy. In fact, pre-packaged software is one of the most dynamic industry segments today.

Product development is a vital component for not only the larger corporations but also for the small and medium enterprises (SMEs) who are always trying to stay above water in highly competitive sales driven market place. In order to keep their costs down and get the best product out to the market, SMEs are looking to outsource their product development. Some of the major challenges they face while considering offshore outsourcing for product development, are as follows:

- Finding a suitable outsourcing partner with product development experience and suitable resources that are required for complex products.
- Concerns over protection of Intellectual Property (IP)
- Lack of control on end-to-end product quality as per requirements of their clients
- Constantly changing product specifications depending on market trends which require the product development team to be in one location

##### Why consider offshore product development?

Product development companies and SMEs in particular need to include offshore development in their business strategy. Venture capitalists funding small and mid-sized software product companies in the North America are also insisting on an offshore strategy to keep product development costs low. This helps the product company's management to focus on marketing and customer

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<sup>2</sup> This is an internal document prepared by Osellus Inc. to evaluate the opportunity of applying the business model of Multi-shore outsourcing to small and medium enterprises in Canadian economy to avail the benefits and the ideal modus operandi for a small or medium enterprise to form an alliance with the best outsourcing partner.

relationship management rather than project and resource management. Companies with short product cycles have a higher need to work with offshore development partners as their products change fast and they need to keep on investing in new product developments quite often.

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Since setting up a captive development centre is an expensive and risky proposition for SMEs, it is a much better proposition to partner with offshore development companies which have the organization with the required mindset, skills and development processes suitable for product development at lower costs and shorter timelines.

Companies may decide to outsource product development in the following areas:

- New product design, development and testing
- Migration to new technology platform
- Maintenance, support and enhancements
- Product integration with other applications

Depending upon the success of their outsourcing partnership, SMEs will be able to realize some or all of the following benefits.

- *Market release:* Faster release of new products/features in the marketplace
- *Cost efficiencies:* Increased cost efficiencies by utilizing the location specific best resources at optimum costs
- *ResourceOnTap:* Ease of scaling up or down the resources according to requirements at short notice without incurring fixed & severance costs associated with permanent employees.
- *Productivity:* Increased productivity levels by achieving shorter development and testing cycles
- *Revenues:* Increased revenues as the management can focus on core competencies such as understanding the market, identifying the right requirements, marketing it well, managing customer relationships and responding quickly to customer needs.

### **Importance of processes in quality assurance**

Software development is intrinsically a complex undertaking and end to end product development processes are a must for quality assurance. Developing software that meets time-to-market, quality and cost goals requires well coordinated efforts among the project team members. Even though process methodologies have matured over past 10 years, the level of implementation and hence the benefits realized from projects varies to a high degree. Mistakes occur,

and frequently. When they do, the implications to the project timelines and budget are usually significant.

Entry level:

It's not uncommon to see one-off project process that is barely enforced and which does not really capture the lessons learnt over the course of the project. Most of the processes are largely on paper with no assurance that the process is followed during the project. Some of the reasons behind this situation stem from obsolete processes, lack of training and lack of management buy in.

Intermediate level:

These are the projects where processes are lightly documented and the lessons learnt in projects are codified for future use. There is certain degree of repeatability of the processes and increased consistency in quality. However the manual management of processes remains a challenge in managing distributed teams and does incur significantly extra overheads for practitioners. Also, the lack of a standards based approach may create an inefficient system for tailoring and maintaining various processes especially when many individuals are involved in contributing to the improvement of processes.

Advanced level:

Software enabled process automation is essential for seamless deployment of processes among distributed teams typically in outsourcing arrangements. The recent introduction of the Software Process Engineering Metamodel (SPEM) specification from the Object Management Group (OMG) is perhaps the most significant development enabler for the vendor community to address the process automation needs in the market. SPEM is an open standard for specifying (modeling) any software development process. The specification was developed especially to address the unique and complex nature of software development. Since SPEM is an open standard, customers can in effect subscribe to a development methodology from one vendor, model the processes that support that methodology in SPEM using the process modeling system from another vendor, and enact and monitor the modeled processes from a third vendor. A process automation system would help development organizations model, enact and monitor their end-to-end processes among distributed teams and in this way, has a direct positive impact on organization's quality, cost and time-to-market objectives. Organizations are able to easily aggregate the knowledge of executing process centric projects, use this knowledge to implement continuous quality, cost and process improvements.

**Selecting a suitable outsourcing partner:**

Service providers need to provide an ideal training and work environment for their employees suitable for product development. They require people who can

architect and design products that are extendable, scalable, and maintainable and that are built right the first time. For SMEs considering offshore outsourcing need to ensure the following capabilities from their outsourcing partners:

- Assurance from vendors that they can hire and retain highly skilled resources who understand the unique discipline required for product development
- Partners willingness to provide post development maintenance services
- Ability to enact suitable processes for product development in distributed environment
- Good track record of product quality and on time delivery of project deliverables
- Ability to leverage location specific skills advantage and cost structure. As an example utilizing Canadian resources for requirements and design phases, development and testing resources in offshore locations to provide unique advantage to deliver highest quality products at lower costs
- Use of suitable technology to link people and processes
- Apt recruitment and training programs to ensure high quality human capital
- Flexible culture so that partner employees can adjust with the customer's organization culture. Typically large IT services vendors have their own culture without which they simply cannot function. Outsourcing relationship with similar size companies works better.

### **Step-by-step approach for SMEs**

#### Selection of a project

Often companies start off with low risk projects with outsourcing partners. But low risk means low value work which does not attract sufficient priority from outsourcing partners and hence these projects have higher chances of either failure or reaching no conclusion. Projects with well defined requirements and higher value are generally more suitable for offshore development.

#### Selection of outsourcing vendor

SMEs should work with outsourcing partner with product development experience. Vendors with multi-shore facilities are able to utilize country specific advantages to meet different needs at various stages of product development and management such as requirements, architecture, design, development, testing and maintenance. Vendors should be flexible to offer options such as transferring the ownership of the offshore facility while continuing the management if the SME were to decide for such a change.

#### Project and process monitoring

It is important that a suitable process automation system is implemented which enables seamless enactment of chosen process across the teams and also give near real time vies for SMEs on process compliance, quality assurance and project metrics.

Observation

Given business demands that the North American SMEs such as Osellus face, Osellus is in a unique position to expand its customer base for increased revenues while leveraging its product development expertise and multi-shore organization. Osellus also has to make sure that their strategy and their competitive advantage is not easily copied by its competitors. Time is of the essence and the company who takes initiative to use multi-shore product development is positioned to gain the maximum.