Software Development as a Service

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Project vs Service Orientations

• Custom software development has traditionally been project-oriented.
  – government contracting emphasizes level playing field
• Quality gurus such as Deming emphasize single supplier to lessen variation.
• “Outsourcing” movement driving towards long-term software suppliers.
  – maintenance is bulk of life cycle
Moving from Projects to Services

- Relationship rather than time-bounded with no “memory”
- Integrating software supplier into customer business processes
- Building supplier capability in partnership with customer
- “A service is a means of delivering value to customers by facilitating outcomes customers want to achieve without the ownership of specific costs and risks.” ITIL v3

Service Management Frameworks

- ISO 20000 (IT Service Management) + IT Infrastructure Library (ITIL)
- CMMI for Services (Acquisition)
- eSourcing Capability Model for Service Providers (Client Organizations)
ISO 20000 (IT Service Management)

3. Requirements for a management system
4. Planning and implementing service management
5. Planning and implementing new or changed services
6. Service delivery process
7. Relationship processes
8. Resolution processes
9. Control processes
10. Release process

IT Infrastructure Library (ITIL)

- Five core books
  - Service Strategy
  - Service Design
  - Service Transition
  - Service Operation
  - Continual Service Improvement
CMMI for Services

- Configuration Management
- Measurement and Analysis
- Process and Product Quality Assurance
- Requirements Management
- Supplier Agreement Management
- Service Delivery
- Work Monitoring and Control
- Work Planning
- Organizational Process Performance
- Quantitative Work Management
- Causal Analysis and Resolution
- Organizational Performance Management
- Capacity and Availability Management
- Decision Analysis and Resolution
- Incident Resolution and Prevention
- Integrated Work Management
- Organizational Process Definition
- Organizational Process Focus
- Organizational Training
- Risk Management
- Service Continuity
- Service System Development
- Service System Transition
- Strategic Service Management

eSCM for Service Providers

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<th>Sourcing Life-cycle</th>
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## eSCM for Client Organizations

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## ISO 20000 Coverage of eSCM-SP

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Primary Causes of Sourcing Failures

- Criteria for success are not well understood or agreed up front.
- Trade-offs between providing better service, faster service, or cheaper service are not always fully articulated.
- Clients often have little experience in outsourcing and so have no standard criteria for service provider selection.
- Clients frequently lack expertise to manage relationships and risks throughout the sourcing life cycle.
A Strategic Perspective

• Service providers can become tightly linked with their client’s business processes.
• Software is frequently a critical business capability.
• Aligning services with the client’s business strategy can be a prerequisite for success.

Strategy

• ITIL’s Service Strategy
  – Organization Design and Development
• CMMI for Services
  – Strategic Service Management
• eSCM for Client Organizations
  – Sourcing Strategy Management
  – Sourcing Opportunity Analysis
  – Sourcing Approach
Relationship Management

• When a software developer is providing a long-term service, the perspective moves from time-bounded projects to open-ended relationships.
• Protecting and growing the relationship should be a priority for both the client and the service provider.

Relationships

• ITIL’s Service Strategy
  – Business Relationship Management
• CMMI for Services
  – Requirements Management
• eSCM for Client Organizations & Service Providers
  – Relationship Management
Service Design

• Focus is not design of the software!
• Focus is on designing the service capability, i.e., the ability to provide software
  – Select opportunities to reuse work products.
  – Identify cultural attributes that impact service.
  – Create a design for the work environment.
  – Create a design for the personnel structure to be used in service delivery.
  – Create a design for the technology infrastructure.
  – …

Designing a Service

• ITIL’s Service Design
• CMMI for Services
  – Service provider organizations can also choose to use the CMMI-DEV model as the basis for improving and appraising their service system development processes.
• eSCM for Service Providers
  – Service Design & Deployment (sdd02.b3)
Collaboration Over Negotiation

- Services evolve over time
  - service levels change
  - new services are added

- Multiple levels of changing support
  - contract amendments for major changes
  - service modifications for minor changes

Service Modifications

- ITIL
  - Service Design (Service Level Management)
  - Continual Service Improvement

- CMMI for Services
  - Service Delivery (Establish Service Agreements and ad-hoc requests)

- eSCM for Service Providers
  - Amend Contracts (cnt11)
  - Service Modifications (del07)
Deployment and Operations

• Release of the software to the users is emphasized as a continuing responsibility.
  – expectation of multiple releases
• Operational support is an intrinsic part of software development as a service.

Designing a Service

• ITIL
  – Service Transition
  – Service Operation
• CMMI for Services
  – Service Continuity
  – Service System Transition
• eSCM for Client Organizations & Service Providers
  – Service Transfer
Technology Is a Service Enabler

• Outsourcing is enabled by communications technology that allow us to span the globe.
  – IT-enabled services!
• Technology management is fundamental to integrating client and service provider technology bases.

Technology Management

• ITIL
  – Service Design: four P’s of design
  – Service Operation: Technical Management Function
  – Continual Service Improvement
• CMMI for Services
  – Organizational Performance Management
• eSCM for Client Organizations & Service Providers
  – Technology Management
Questions and Answers

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