



SaaS Development Best Practices: From On-Premise to On-Demand

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A Business Unit of CorSource Technology Group

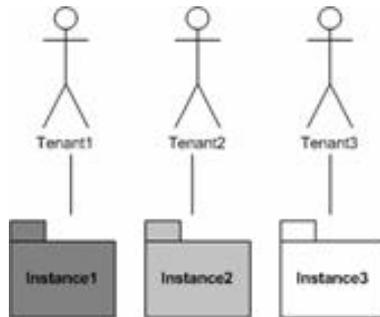
Why Move to On-Demand?

- ④ Increases market reach
- ④ Decreases operational expenses
- ④ Increases customer satisfaction
- ④ Provides competitive differentiation
- ④ Stabilizes revenue

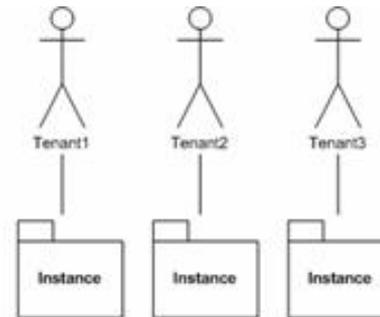
How do I most effectively move my product from on-premise to on-demand?

Levels of SaaS Maturity

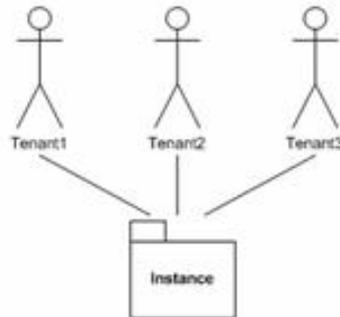
1. Internet-accessible
One instance per customer



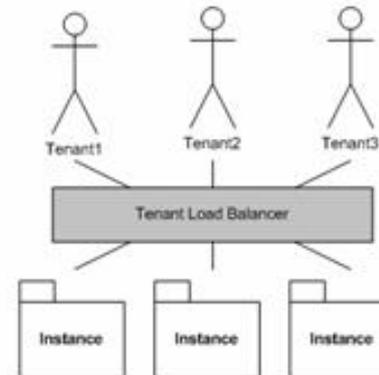
2. Configurable per customer



3. Multi-tenant
efficient



4. Fully scalable,
configurable,
multi-tenant



SaaS Software Architecture – Level 4

④ Tenant-Configurable (Metadata-driven)

- Presentation: branding
- Business logic: workflow
- Security: user access control
- Database: client-specific extensions

④ Multi-Tenant Efficient

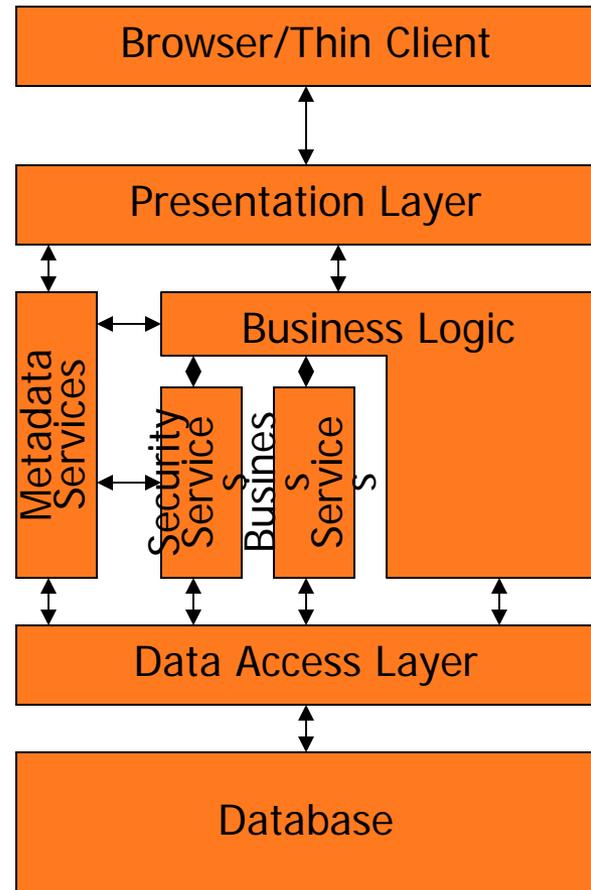
- Business Logic: threaded and pooled
- Security: shared but separate
- Database: common but isolated

④ Scalable

- Business Logic: stateless, pooled, etc.
- Data Access: cached, pooled, asynchronous
- Database: partitioned

④ Operable (Business Services)

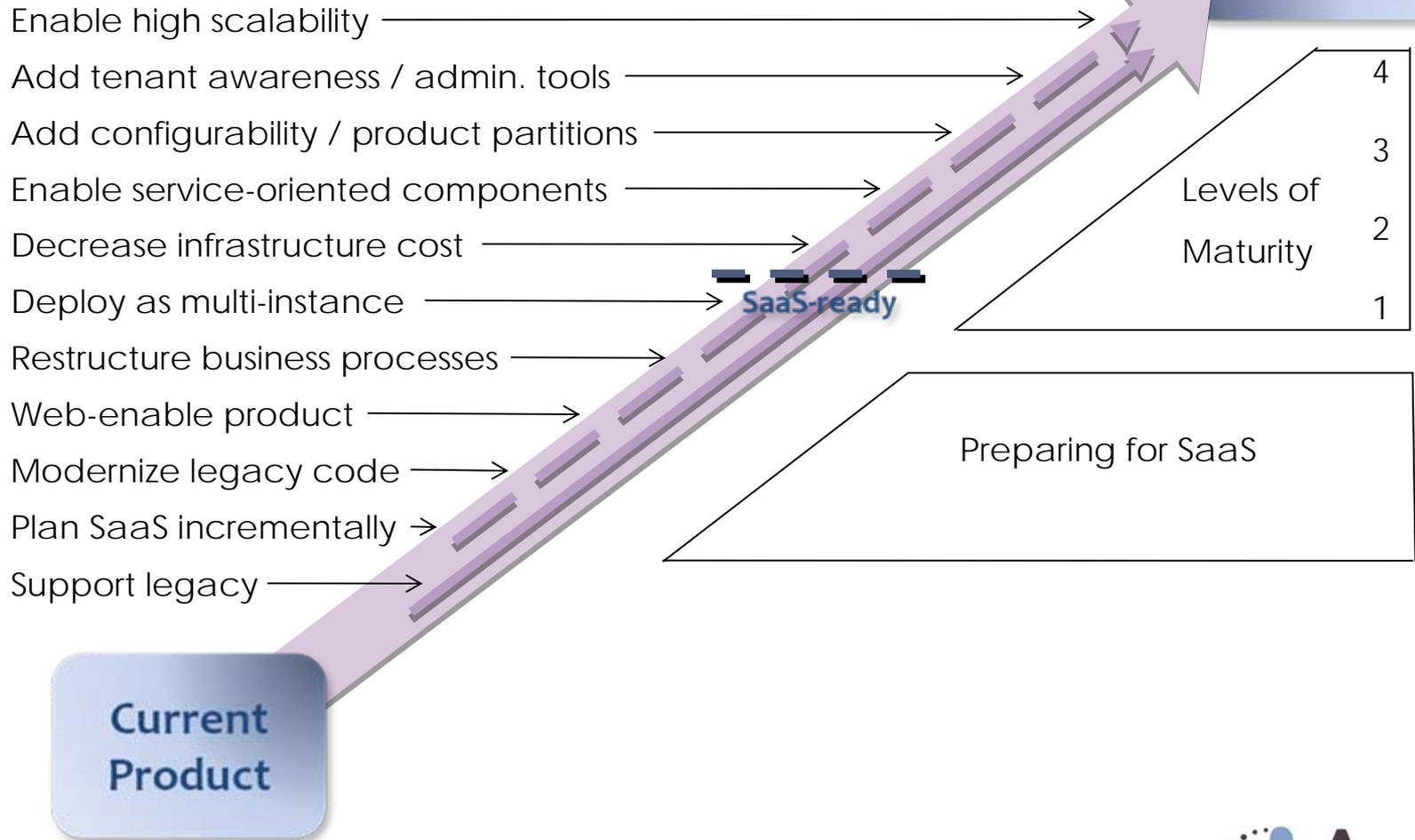
- OSS: provisioning, monitoring, etc.
- BSS: billing, customer care, etc.



Key Factors of SaaS Enablement

Factor	Considerations
Business and project planning	<ul style="list-style-type: none">▪ Understand business objectives▪ Assessment of current product and skills needed▪ Incremental project plan
Architectural planning	<ul style="list-style-type: none">▪ Support for multi-tenancy▪ Scalability and manageability considerations▪ Technical approach and use of current product
Development and service process restructuring	<ul style="list-style-type: none">▪ Flexible processes for requirements, change management, development and testing▪ Customer service model
Well-articulated requirements	<ul style="list-style-type: none">▪ All or subset of current product features▪ Modernization of user interface▪ Additional features required
Infrastructure migration	<ul style="list-style-type: none">▪ More flexible and maintainable infrastructure
Existing product support	<ul style="list-style-type: none">▪ Balance resources between existing product and SaaS enablement – how?

SaaS Enablement Steps



SaaS Enablement Example – Company X

④ Business needs

- Grow business in mid-market with SaaS offering
- Needed some level of SaaS offering ASAP

④ Product development needs

- Help on planning SaaS enablement
- Additional skilled resources to develop SaaS-enabled product

④ Current product key technologies

- Delphi
- Crystal Reports
- Sharepoint

Key Company X Objectives

Priority	Objective
High	Launch SaaS product ASAP (to capture market share with smaller businesses)
Medium	Move to up-to-date technology
Medium	Improve software's extensibility to partners
Medium	Improve user interface and functionality
Medium	Support product segmentation / modular deployment

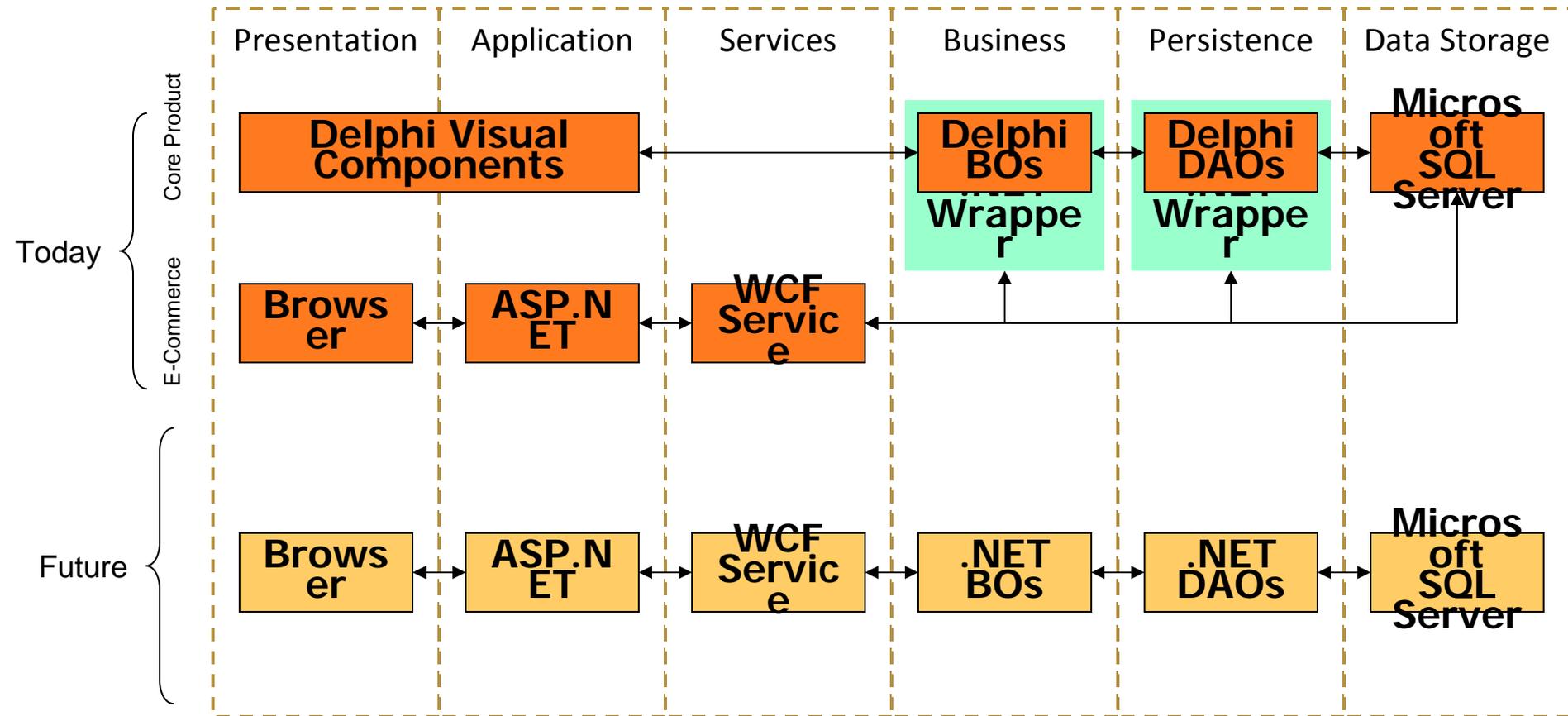
Company X Planning Tenets / Assumptions

- ④ Leverage existing product (keep large part of design, keep some code initially, re-use stateless architecture)
- ④ Adopt Microsoft (leverage current code base and skills, provide career path, etc.)
- ④ Target simpler businesses at launch: nearly complete functionality
- ④ Continue to require use of some Professional Services for all new customer deployments
- ④ Change current GUI for SaaS product (must still provide rich user experience)

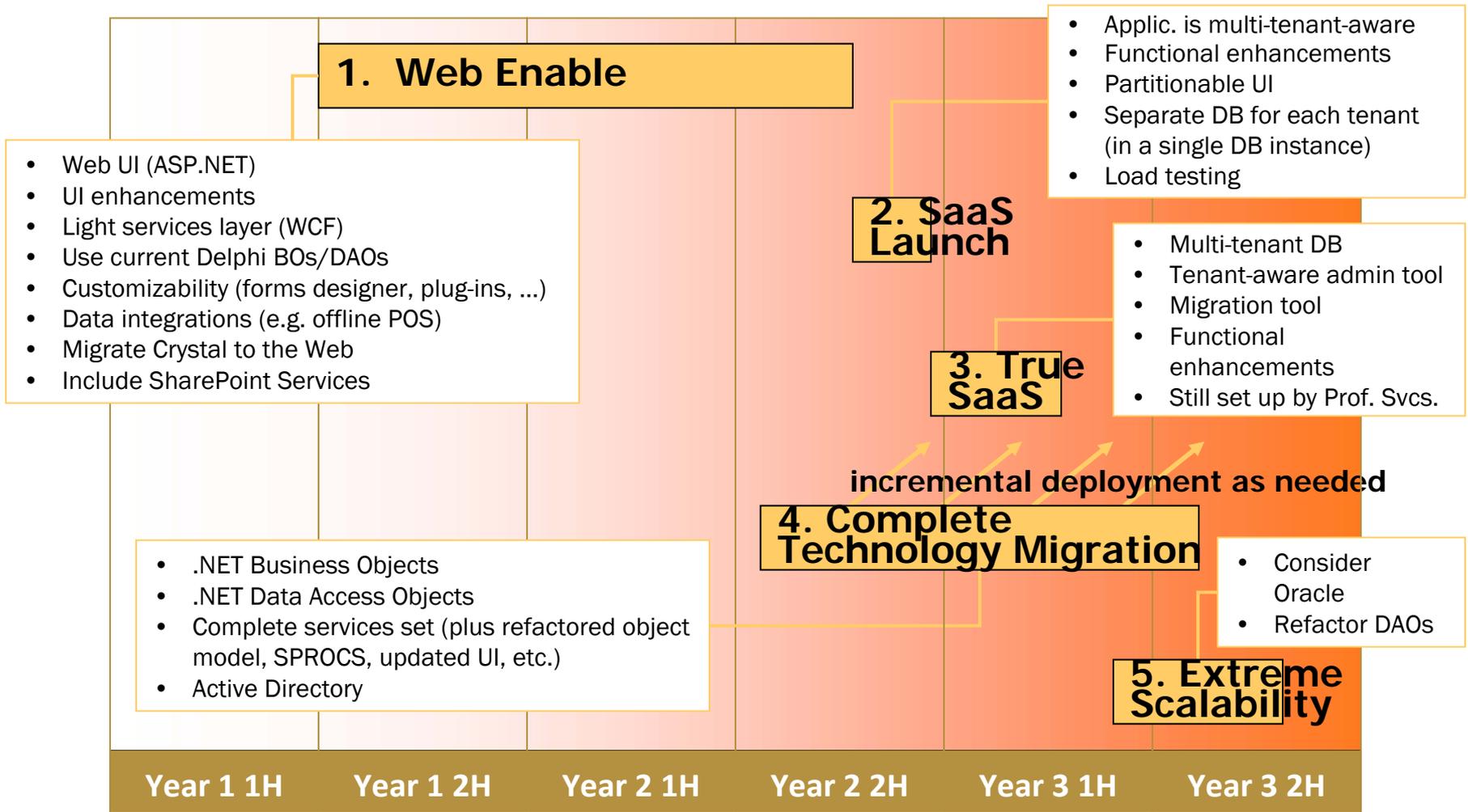
Company X Primary Technology Choices

Area	Selected Technology	Rationale
Application Architecture	Microsoft .NET	Company X has current skills and foundational architecture. Other option is Java, which provides no significant advantages.
GUI Platform	Microsoft ASP.NET	Aligns best with .NET. Scripting / rapid development choices such as PHP or Ruby on Rails do not provide the robustness and flexibility required of enterprise software.
Database Management System	Microsoft SQL Server	Company X has current skills and foundational architecture. SQL Server 2005 has reached par with Oracle, DB2, and open source alternatives (e.g. MySQL) for all but the highest transaction loads.

Company X Software Architecture



Five Phases to SaaS – Company X



Company X Use of Outsourcing

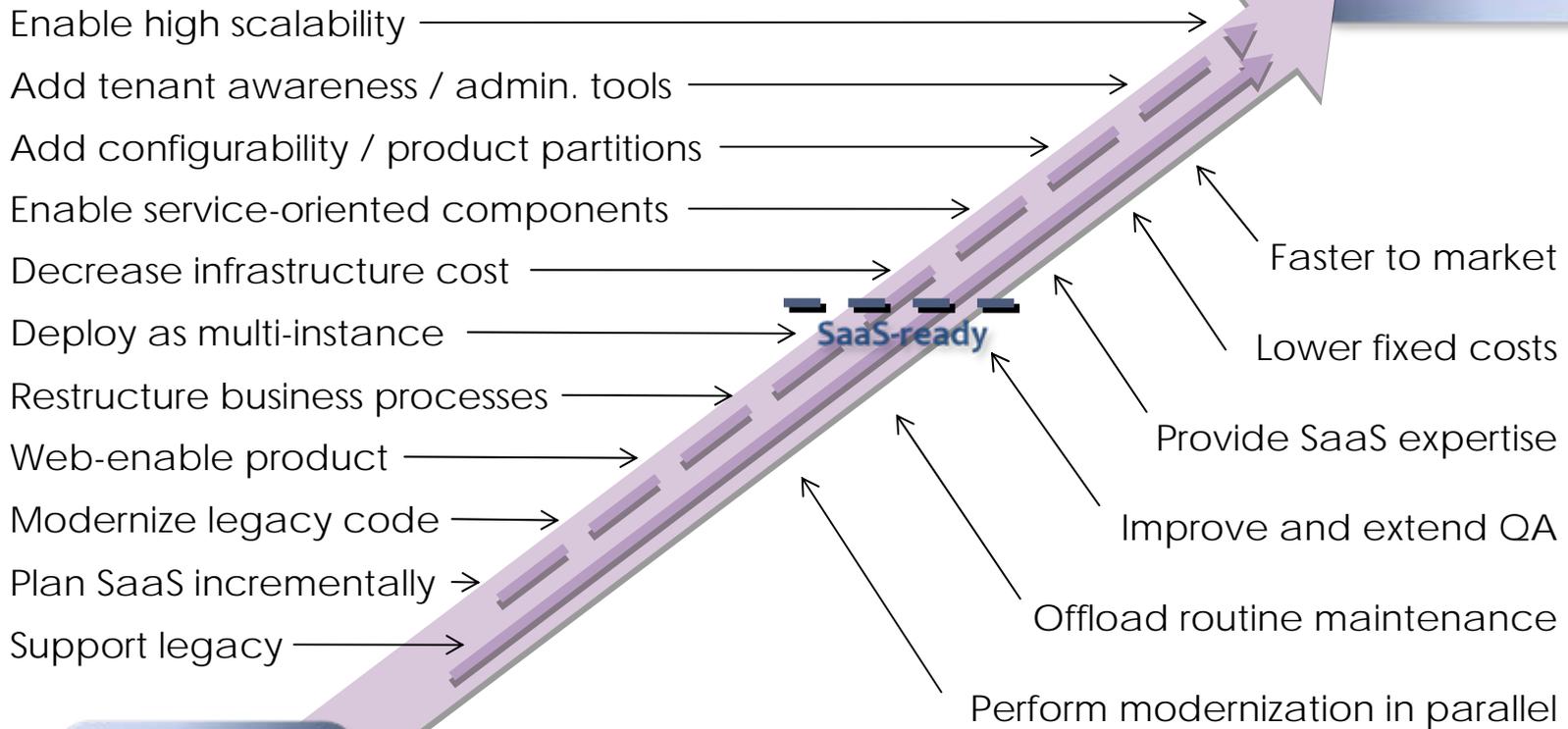
- ④ Evaluate current product for SaaS suitability
 - Conducted SaaS suitability assessment
- ④ Develop high-level SaaS plans
 - SaaS enablement product roadmap
 - Overall SaaS enablement project plan
- ④ Phase 1 (web enablement) project plan, development and testing
- ④ Phases 2 – 5 co-development and testing with internal Company X team

Company X Outsourcing Benefits

- ④ Leverage SaaS experience of vendor
 - Planning
 - Current product SaaS suitability assessment
 - Development
 - Testing
- ④ Faster time-to-market
 - Quick vendor team ramp-up focused on SaaS deliverables
- ④ Lower costs with blended onshore/offshore team of outsourcing vendor

SaaS Enablement Steps

SaaS Product



Current Product

Outsourcing Value

Keys to Successful Outsourcing

- ✓ **Executive-level management champion focused on success of outsourcing**
- ✓ **Experienced outsourcing partner with value-added onshore presence**
- ✓ **Strong, trusting relationship with outsourcing partner**
- ✓ **Clearly defined roles and responsibilities**
- ✓ **Well-defined communications processes**
- ✓ **Risk-management throughout the engagement**
- ✓ **Well-managed requirements**
- ✓ **Continuous integration with current product development and core team**



On-Premise to On-Demand –Summary

Key Step	Key Elements of Step
Identify business objectives	<ul style="list-style-type: none">▪ Target market requirements and timing▪ Business process changes
Determine outsourcing strategy	<ul style="list-style-type: none">▪ SaaS planning and development experience▪ Value-added onshore presence▪ Current product support
Develop high-level SaaS product roadmap	<ul style="list-style-type: none">▪ Phased approach vs “big-bang”▪ New features needed for this market
Determine technology approach and software architecture	<ul style="list-style-type: none">▪ Current product SaaS suitability assessment▪ Key technologies to be used▪ Architecture considerations
Develop overall project plan, including infrastructure plan	<ul style="list-style-type: none">▪ Phases and deliverables▪ Resources, schedule, cost▪ Infrastructure needed
Plan and provide existing product support	<ul style="list-style-type: none">▪ Minimum necessary to keep product competitive▪ Balance resources between existing product and SaaS enablement

Contact Information

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