



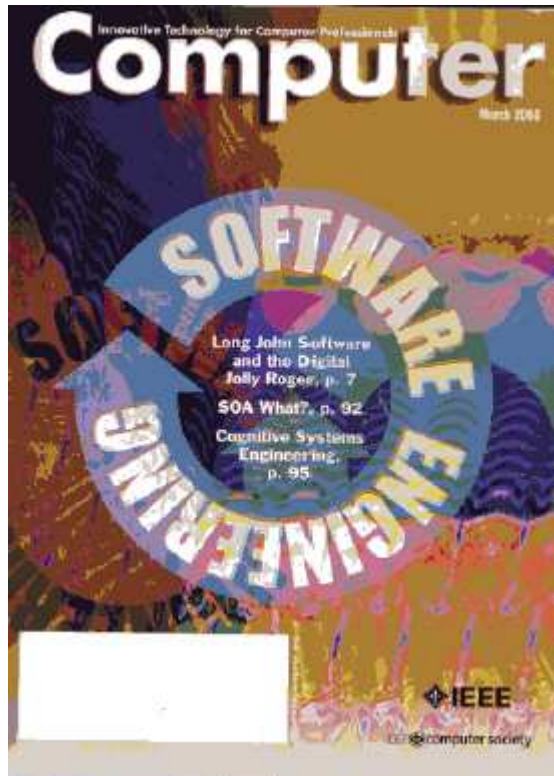
MANAGING RISK

Applying Software Lifecycle Processes in Very Small Enterprises - New standard developments -

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Automotive SPIN Italy – 3° workshop on Automotive Software
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STANDARDS

Developing International Standards for Very Small Enterprises

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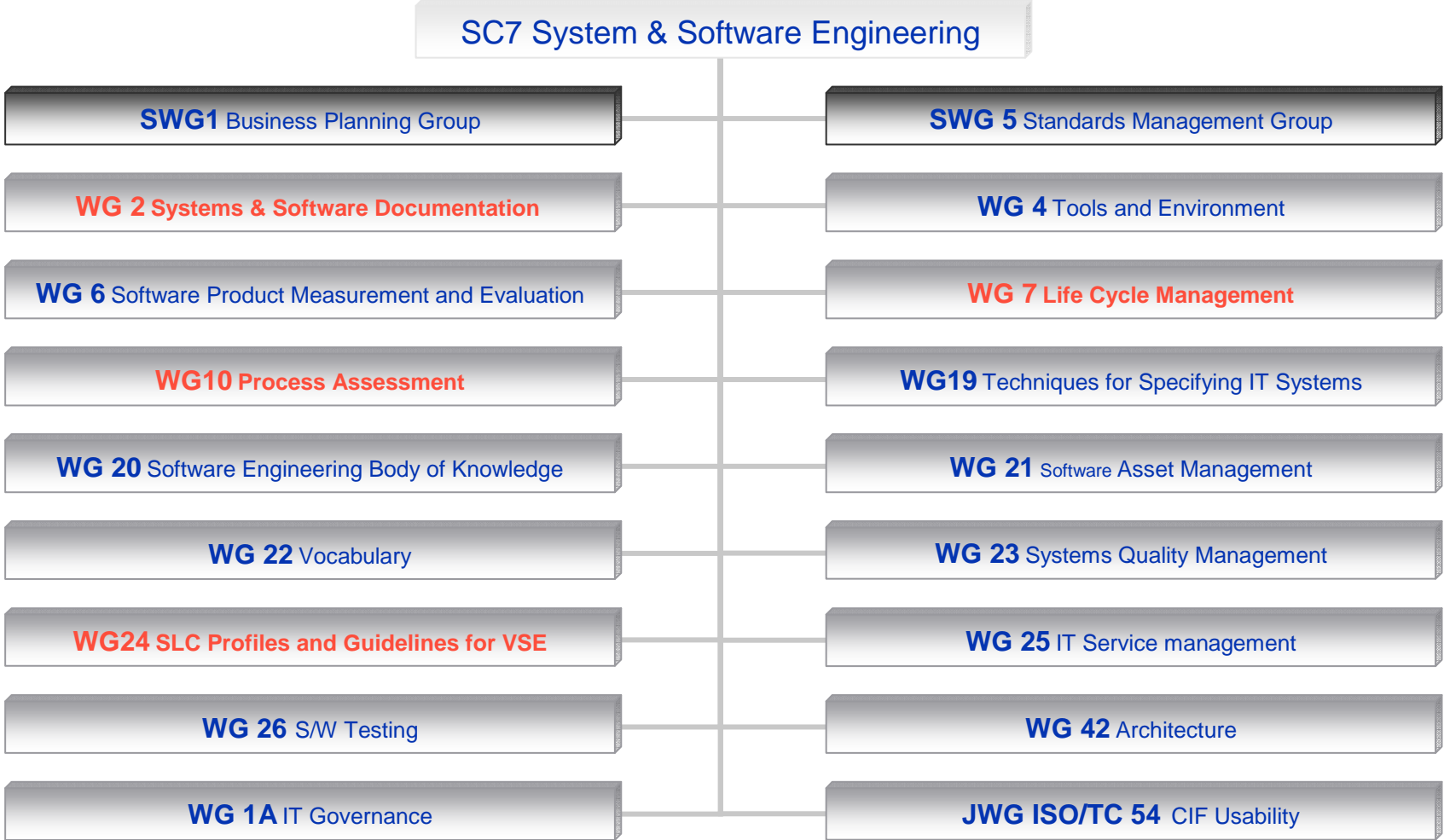
Software engineering standards must address the needs of small organizations, especially those with a low capability level.

Agenda

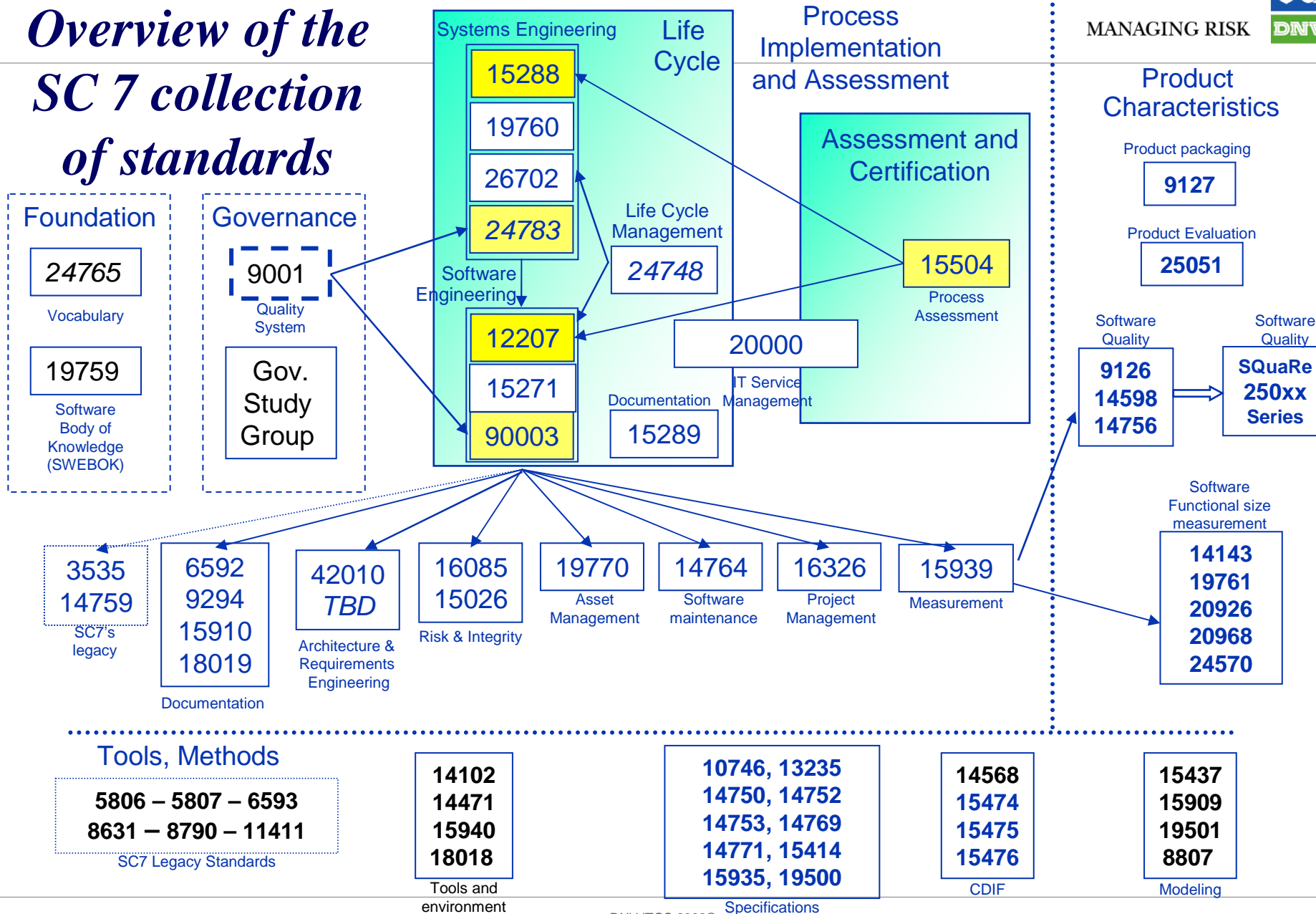
- Overview of SC7 and its standards
- Why standards for VSE – requirements and objectives
- Current developments in SC7 WG24
 - Approach followed – ISP (International Standard Profiles)
 - Proposed incremental profiles
 - Current (initial) working draft



ISO/IEC JTC1 SC7 System & Software Engineering Organizational chart



Overview of the SC 7 collection of standards



Definition of VSE

- Very Small Enterprise (VSE) is defined as organizations having less than 25 employees
- Usually not contractually obligated to follow a standard but ...wants to use a standard that understands VSE constraints

Some data about VSE

- Europe – 85 % of IT sector's companies have 1 to 10 employees
- Canada - 78 % of software development companies in the Montreal area have less than 25 employees – 50% have less than 10
- Enterprises with less than 10 employees represent
 - 93% of all companies in Europe
 - 56% in the US
 - 66% of total employment
 - Source - Organisation for Economic Cooperation and Development, Small and Medium Enterprises Outlook, 2002

Need for standards for VSE

- International standards were not written for and/or are difficult to apply in small projects, small development organizations, or companies that have between 1 and 25 employees (VSE).
- Implementation of current standards requires a significant critical mass in terms of number of employees, cost and time.
- International Life Cycle Standard ISO/IEC 12207 and guide do not explicitly address the needs of VSEs.
- VSEs cannot see a net benefit in establishing a software process as defined by current standards.
- VSE's have no or very limited ways to be recognized as an enterprise that produces quality software systems in their domain.
- VSEs are cut off from some economic activities.

Main objectives of the new SC7 initiative

“Allow VSEs to be recognized as producing quality software systems without the initial expense of implementing and maintaining the entire use of a suite of Systems and Software Engineering standards or performing comprehensive assessments.”

Examples of Issues and Proposed Solutions by Thailand about ISO/IEC 12207

SMEs are not ready to implement the whole 12207 standard.



Standard should be broken down in to stages or levels in order to fit all sizes of SMEs.

Not all 12207 activities are suitable for SMEs' operations.



Need to modify activities to suit SMEs' operation – product and project based type of business.

There is no assessment model for VSE



A set of checklist was developed for use by assessors.

Most software developers are not document-oriented.



Provide packaged templates and examples for rapid documenting

Source: Thai Software Industry Promotion Agency

Requirements for a new standard

- Focus on lower levels of maturity
- Produce documents easy to understand
- Produce guidelines applicable to small teams or projects
- Address VSE market needs
- Provide examples
- Develop scalable profiles and guides

Brief history of the project

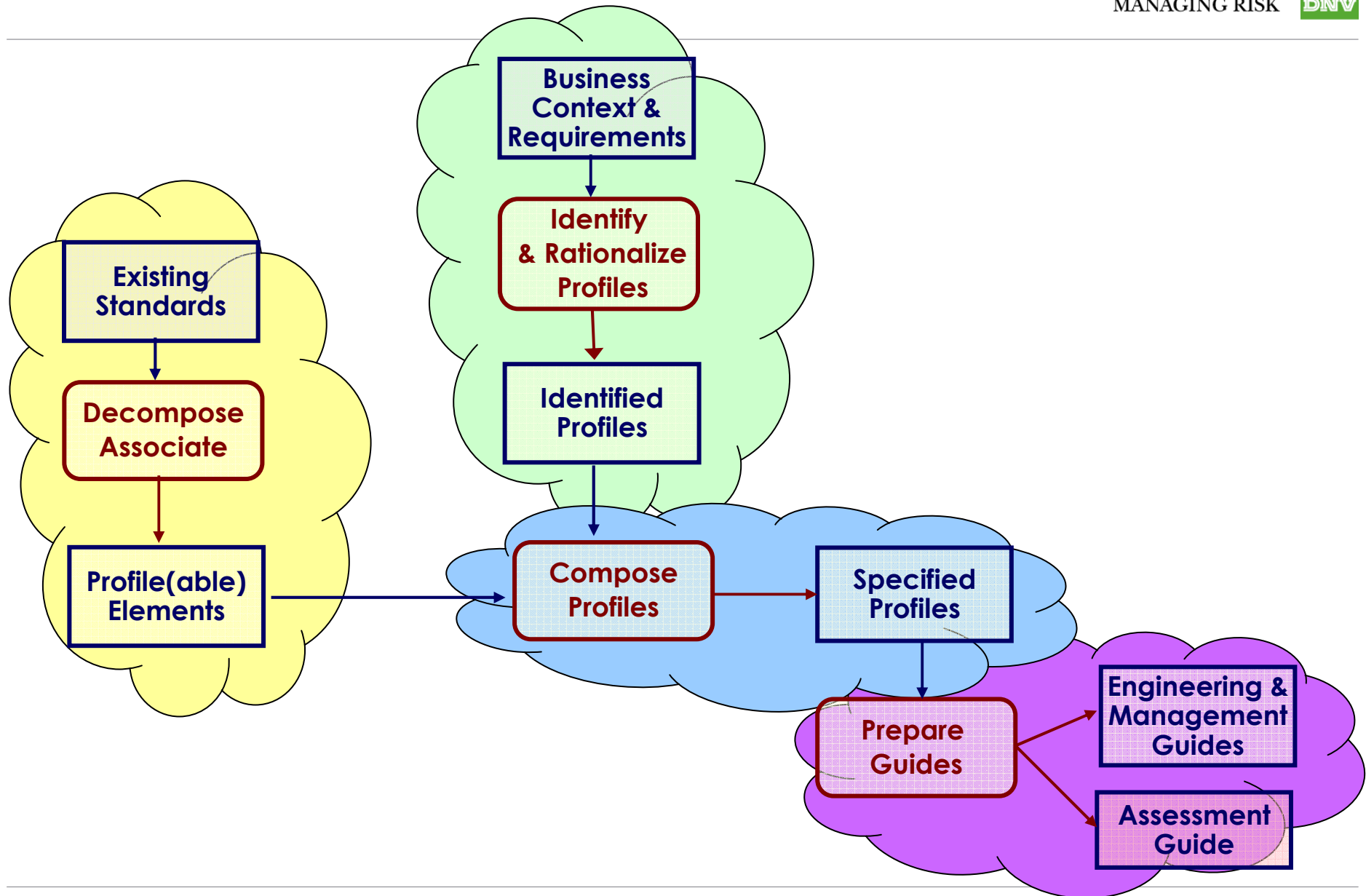
- New work item proposal (NWIP) – 06/2005
- NWIP approval and setup of WG24 – 09/2005
- WG24 first meeting – Bari 10/2005
- Consolidated requirements – 05/2007
- First working draft issued – 01/2008
- Comments deadline on WD1 – 04/2008
- Next meeting – Berlin, 19-23/05/2008

- **Expected publication 2010**

What is an ISP ?

- **ISP – International Standard Profile:**
 - A set of one or more base standard(s)
 - Identification of chosen classes, conforming subsets, options and parameters of those base standards that are necessary to accomplish a particular function.
- **NOTE - ISPs may contain normative references to specifications other than International Standards**
- **Reference: “*ISO/IEC TR 10000-1 - Information technology — Framework and taxonomy of International Standardized Profiles — Part 1: General principles and documentation framework*”**
- **ISO/IEC TR 10000-1 freely available at the ITTF web site**
<http://standards.iso.org/ittf/PubliclyAvailableStandards/index.html>

WG24's Process

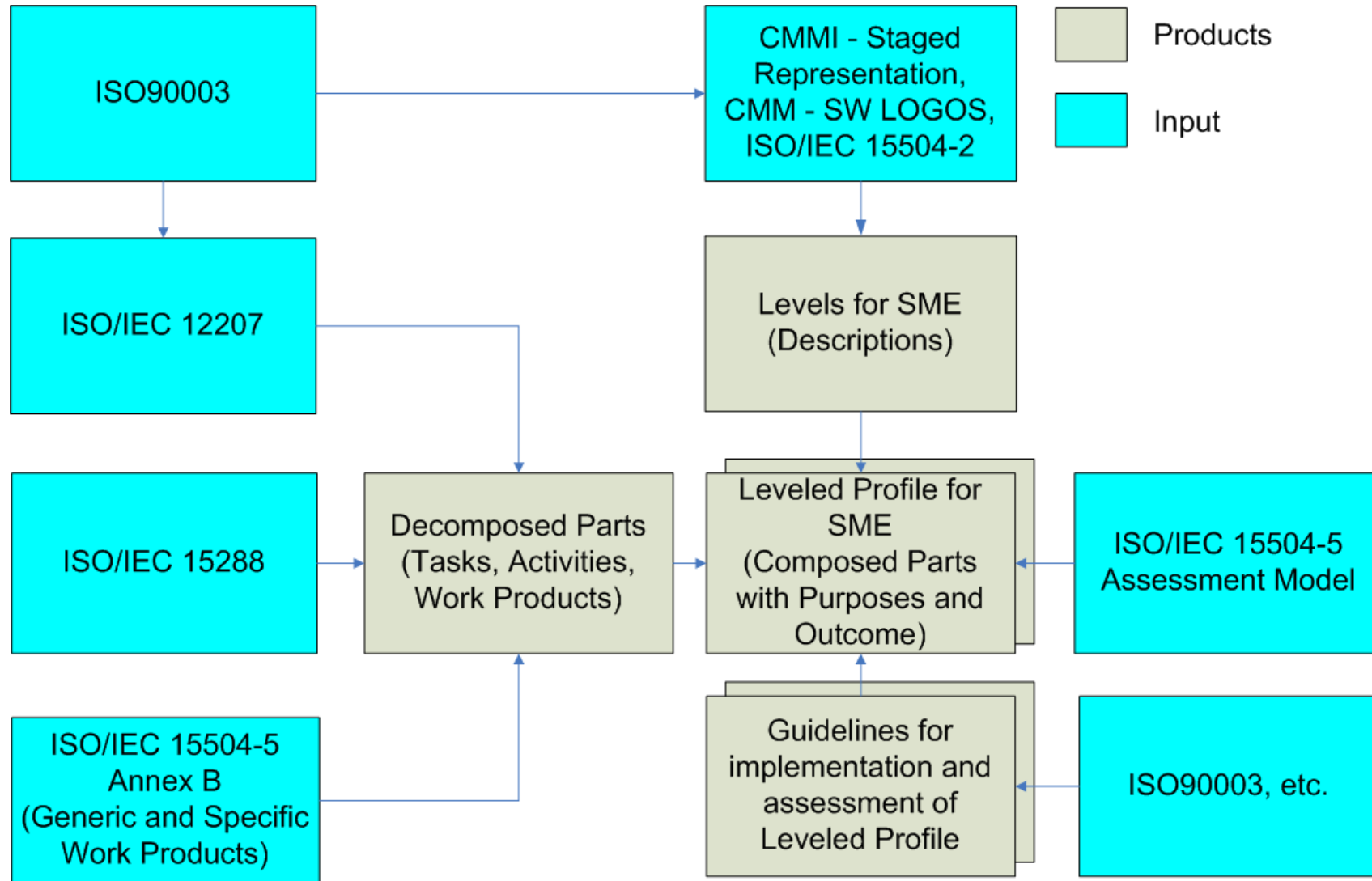


- **Profile 1 (BASIC) Project level**
 - VSE < 10 people
 - One software development project process and product control

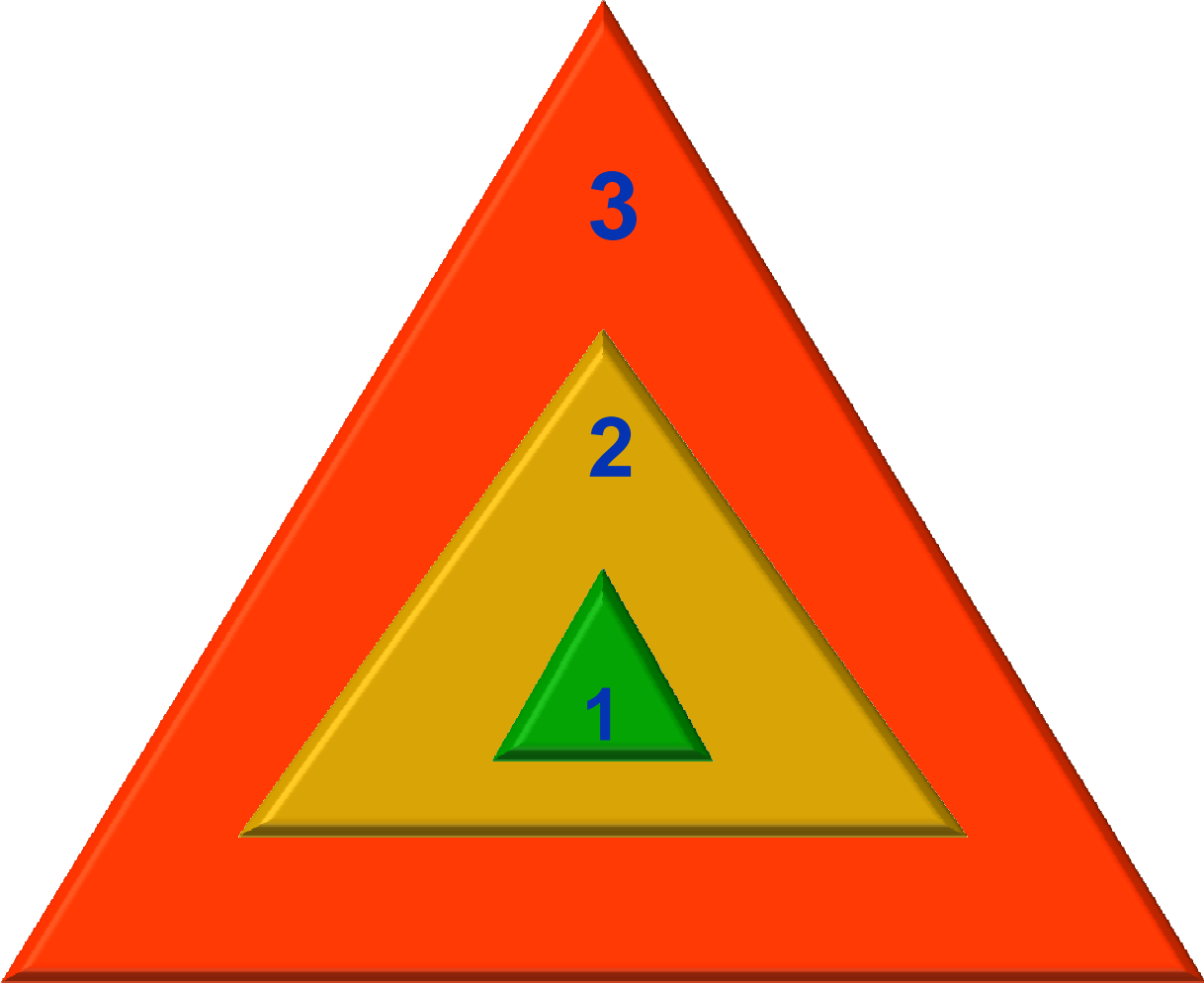
- **Profile 2 Project Portfolio level**
 - VSE from 10 to 25 people
 - Several projects process and product control
 - Resource assignment and control
 - Organization's Knowledge storage and availability

- **Profile 3 Business level**
 - Business Planning and Evaluation
 - Sales
 - Innovation and Improvement

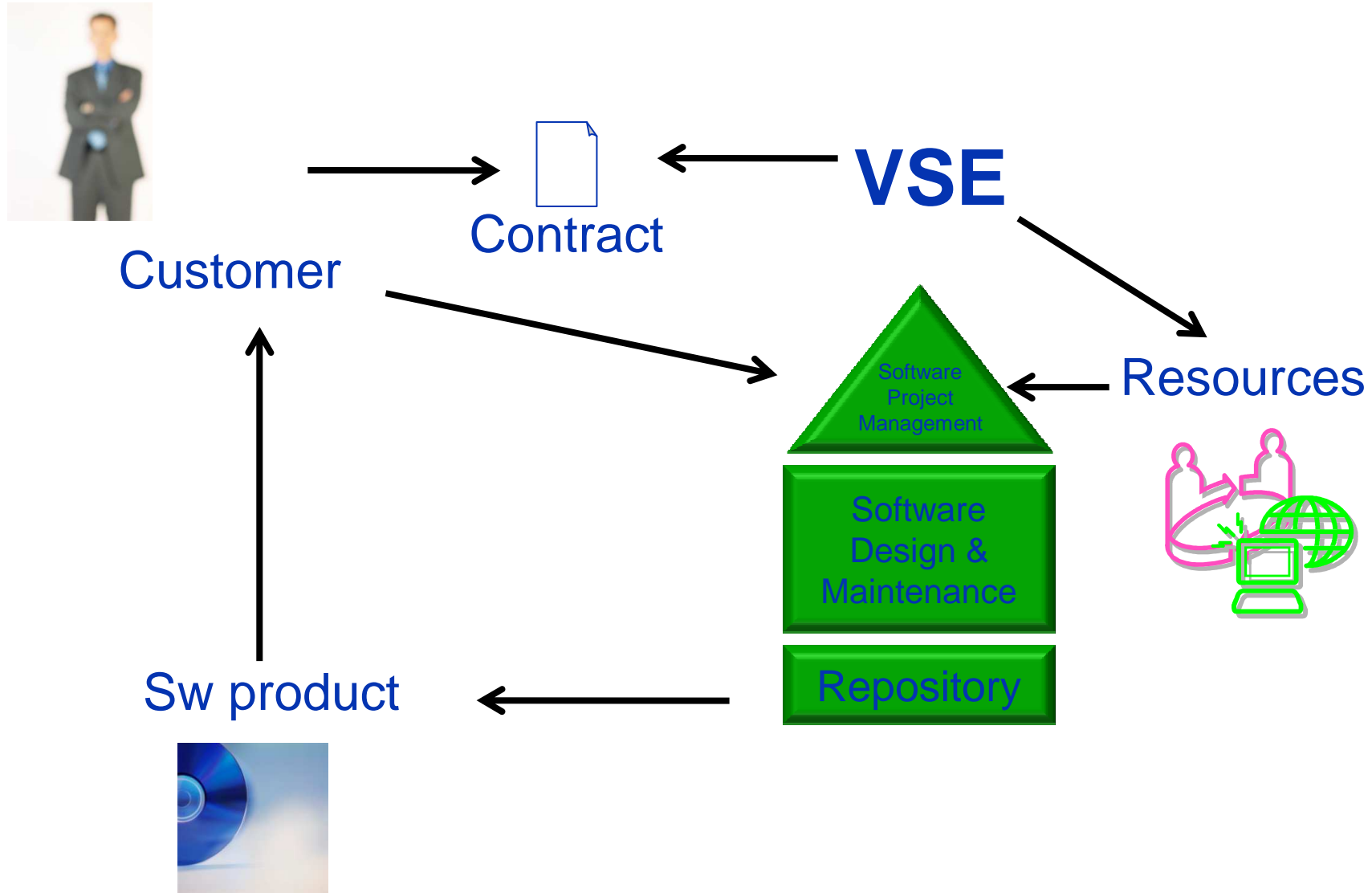
VSE Proposed Model



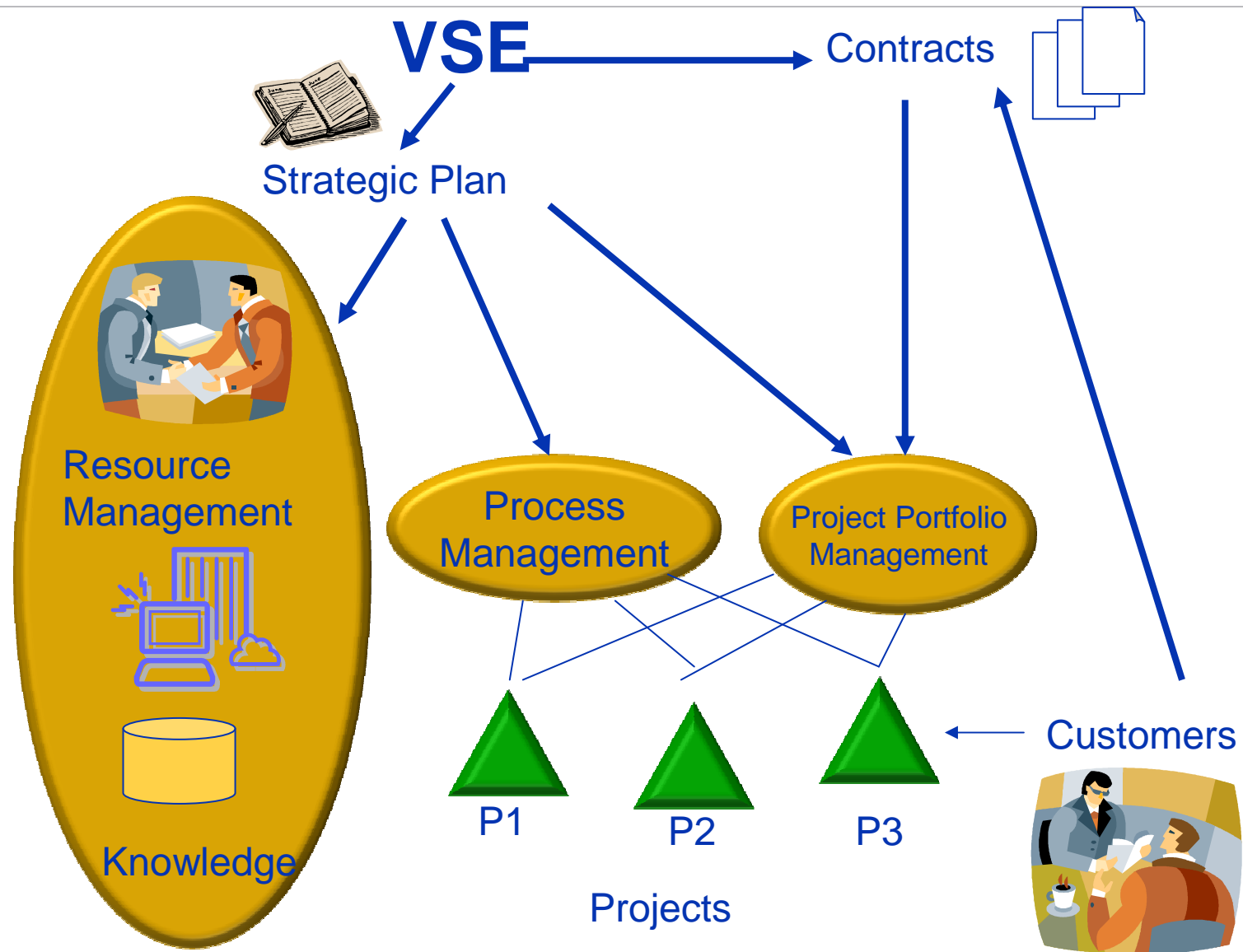
Profiles Relationship



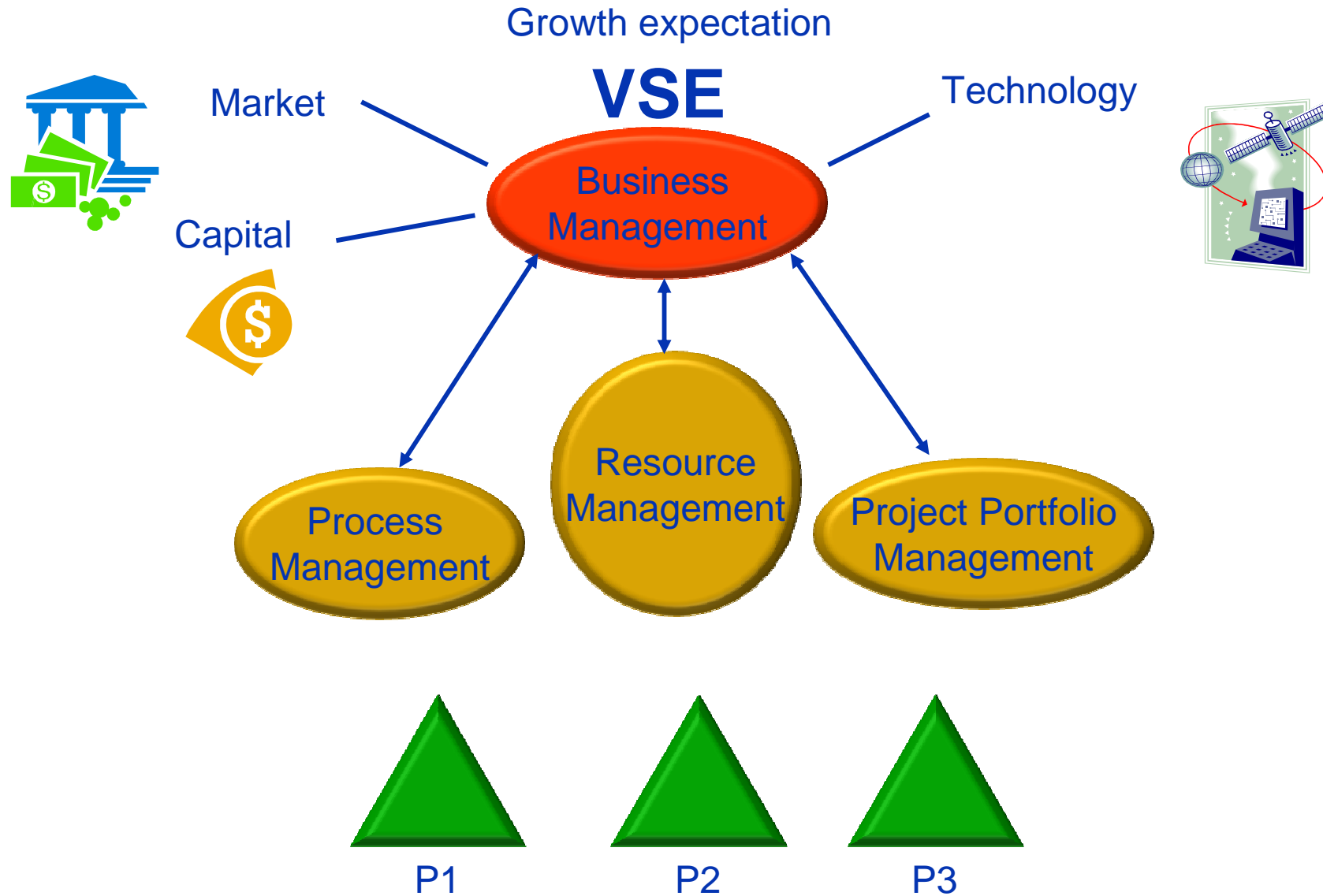
Profile 1 - BASIC



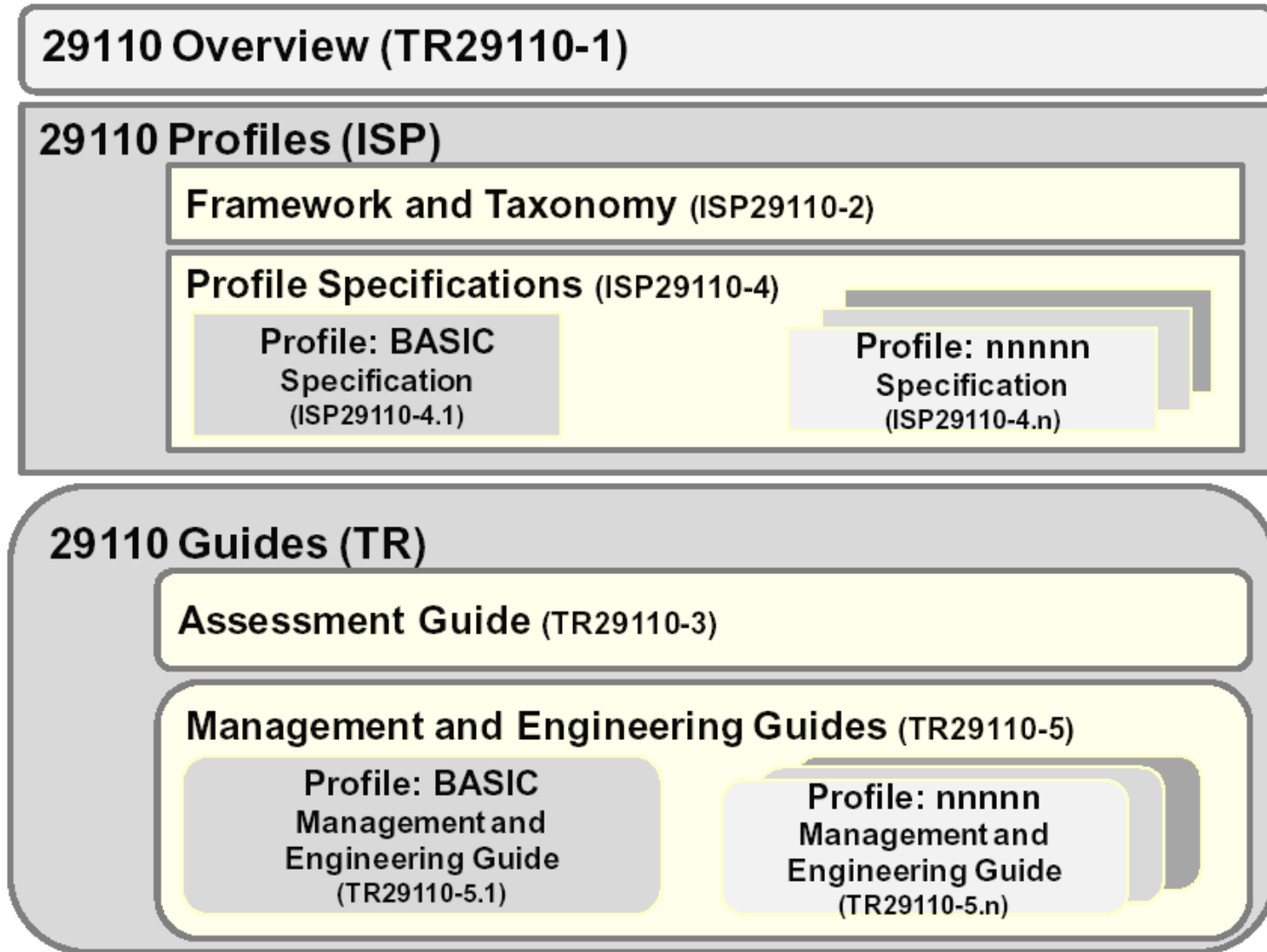
Profile 2 – Project portfolio



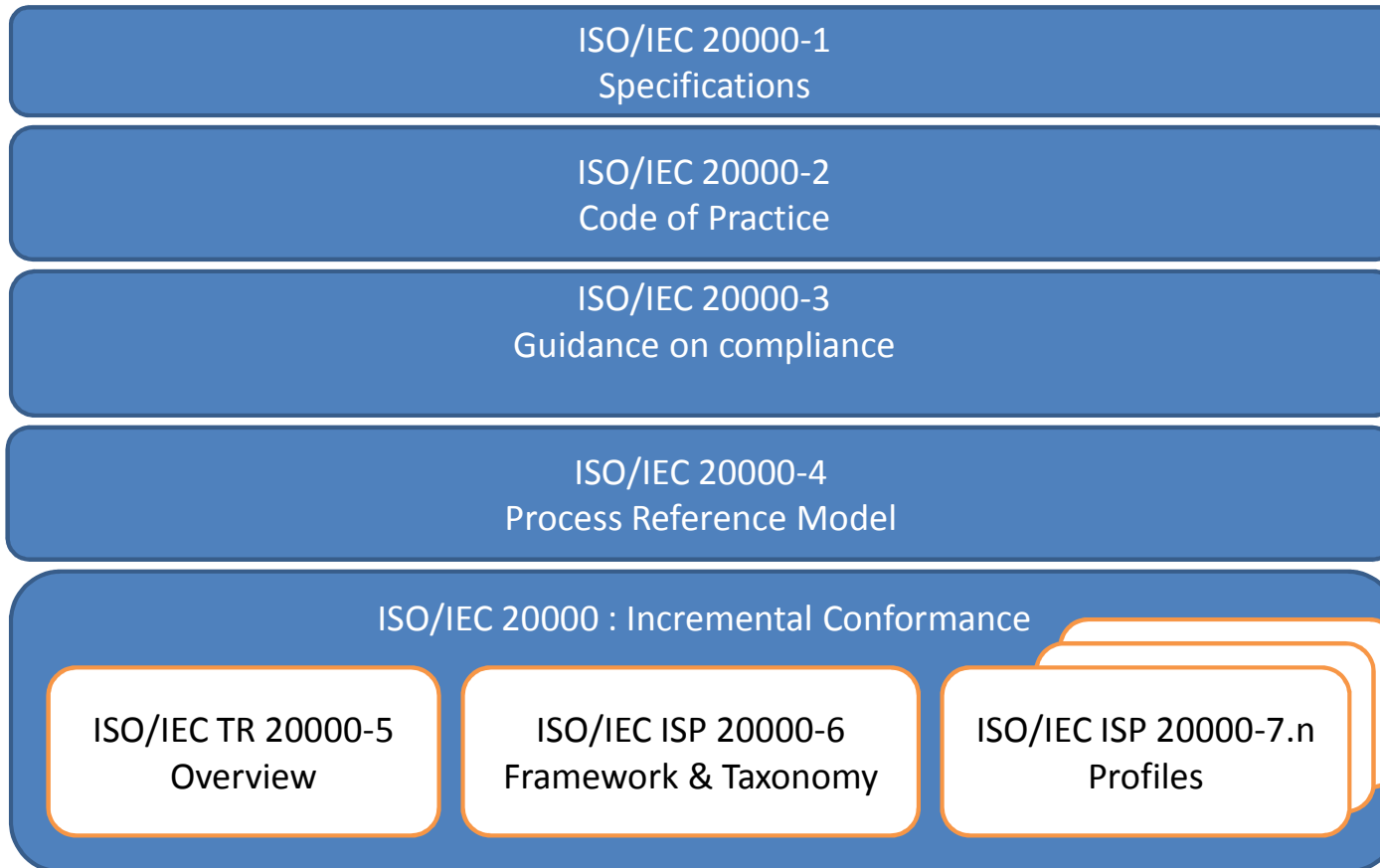
Profile 3 – Business Level



Structure of the standard ISO/IEC 29110



Another example – IT service management



[Profiles for incremental conformity to ISO/IEC 20000-1](#)

Thank you

