MPS.BR – Melhoria de Processo do Software Brasileiro
SUMMARY

1. Introduction
2. MPS.BR Program & MPS Model
3. SAPI in Brazil
4. Conclusion
Introduction

• In December 2003, the Association for Promoting the Brazilian Software Excellence (SOFTEX) began a nationwide program (MPS.BR Program) aiming at developing and disseminating a software process and assessment model better suited to the Brazilian industry/community (MPS Model).

• MPS.BR is the acronym of the Portuguese expression “Melhoria de Processo do Software Brasileiro” and stands for Brazilian Software Process Improvement.

• In this session I will present briefly the MPS.BR Program and the MPS Model (both will be presented deeply tomorrow afternoon, Sep. 14th).

• This speech describes an initiative to improve software acquisition process in Brazil and it is focused on:
  - the Acquisition Process described in the MPS Acquisition Guide
  - the customization of the MPS Acquisition Guide to the Brazilian Ministry of Agriculture, Livestock and Food Supply (MAPA – Ministério da Agricultura, Pecuária e Abastecimento).
SOFTEX – Association for Promoting the Brazilian Software Excellence (www.softex.br)

• SOFTEX is a private not-for-profit organization which fosters entrepreneurship and entrepreneurial development initiatives, financing and funding activities, and business development in Brazil and abroad, aiming at promoting competitiveness of the Brazilian Software Industry.

• SOFTEX (headquartered in Campinas-SP) acts through its 26 SOFTEX Agents, distributed among 22 cities in 13 Brazilian states. There are more than 1,200 associated software companies (over 70% are SMEs).
MPS Model-Based Software Acquisition Process Improvement (SAPI) in Brazil

Kíval Weber, Eratóstenes Araújo, Danilo Scalet, Edméia Andrade, Ana Regina Rocha, Mariano Montoni

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MPS.BR Program

• The MPS.BR Program aims at improving software process in Brazil through the adoption of the MPS Model:
  ➢ in organizations all over the country
  ➢ both in large organizations and Small and Medium-size Enterprises (SMEs)
  ➢ at reasonable costs

• The MPS.BR Program is managed by:
  ➢ a Program Team (UE – Unidade de Execução) coordinated by SOFTEX
  ➢ a Model Team (ETM – Equipe Técnica do Modelo) which develops the MPS Model and deals with MPS training, coordinated by COPPE/UFRJ (Universidade Federal do Rio de Janeiro)
  ➢ an Accreditation Forum (FCC – Fórum de Credenciamento e Controle) which deals with SOFTEX authorized organizations that provide MPS process implementation service and/or MPS process assessment service
MPS Model: MR-MPS, MA-MPS and MN-MPS

ISO/IEC 12207

Reference Model (MR-MPS)

ISO/IEC 15504

Assessment Method (MA-MPS)

CMMI-DEV

General Guide

Acquisition Guide

Assessment Guide

Implementation Guide

Business Model (MN-MPS)

MPS.BR Document

MPS.BR – Melhoria de Processo do Software Brasileiro
## MR-MPS maturity levels (ML), processes and process attributes (PA)

<table>
<thead>
<tr>
<th>ML</th>
<th>Processes</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Causal Analysis and Resolution</td>
<td>1.1, 2.1, 2.2, 3.1, 3.2, 4.1* , 4.2* , 5.1* , 5.2*</td>
</tr>
<tr>
<td>B</td>
<td>Project Management (evolution)</td>
<td>1.1, 2.1, 2.2, 3.1, 3.2, 4.1* , 4.2*</td>
</tr>
<tr>
<td>C</td>
<td>Risk Management, Decision Analysis and Resolution, Development for Reuse, Reuse Management (evolution)</td>
<td>1.1, 2.1, 2.2, 3.1, 3.2</td>
</tr>
<tr>
<td>D</td>
<td>Requirement Development, Product Design and Construction, Product Integration, Validation, Verification</td>
<td>1.1, 2.1, 2.2, 3.1, 3.2</td>
</tr>
<tr>
<td>E</td>
<td>Human Resource Management, Process Establishment, Process Assessment and Improvement, Project Management (evolution), Reuse Management</td>
<td>1.1, 2.1, 2.2, 3.1, 3.2</td>
</tr>
<tr>
<td>F</td>
<td>Configuration Management, Measurement, Quality Assurance, Acquisition</td>
<td>1.1, 2.1, 2.2</td>
</tr>
<tr>
<td>G</td>
<td>Requirement Management, Project Management</td>
<td>1.1, 2.1</td>
</tr>
</tbody>
</table>

* These PAs are applicable only to selected processes. All the other PAs must be applied to all processes.
MPS Model training

- C1 – MPS Introductory course
  - E1 – MPS Introductory exam
    - C2 – MPS Process Implementor course
      - E2 – MPS Process Implementor exam
        - MPS Process Implementor (IM) + member of an accredited Implementation Institution
    - C3 – MPS Process Assessor course
      - E3 – MPS Process Assessor exam
        - MPS Process Assessor (AS) + member of an accredited Assessment Institution
  - C4 – MPS Acquisition Process course
    - E4 – MPS Acquisition Process exam
      - MPS Acquisition Consultant (AC) + work at a real acquisition project advised by a certified AC

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MPS Acquisition Process: purpose and outcomes (full conformance to the ISO/IEC 12207/Amd 1)

- **Purpose**: obtain the product and/or service that satisfy the need expressed by the customer

- **Outcomes**: as a result of successful implementation of the MPS Acquisition Process:
  i. acquisition needs, goals, product and/or service acceptance criteria and acquisition strategies are defined
  ii. an agreement is developed that clearly expresses the expectation, responsibilities and liabilities of both the customer and the supplier
  iii. a product and/or service is acquired that satisfies the customer’s stated need
  iv. the acquisition is monitored so that specified constraints such as cost, schedule and quality are met
  v. supplier deliverables are accepted
  vi. any identified open items have a satisfactory conclusion as agreed to by the customer and the supplier
MPS Acquisition Process: activities and tasks (tailored conformance to the ISO/IEC 12207)

**Acquisition preparation**
1. Establish the need
2. Define the requirements
3. Review requirements
4. Develop acquisition strategy
5. Define selection criteria

**Supplier selection**
1. Evaluate supplier capability
2. Select supplier
3. Prepare and negotiate agreement

**Supplier monitoring**
1. Establish and maintain communications
2. Exchange information on technical progress
3. Review development with supplier
4. Monitor the acquisition
5. Agree on changes
6. Record and track problems until resolution

**Customer acceptance**
1. Define acceptance criteria
2. Evaluate the delivered product
3. Keep compliance with agreement
4. Accept the software product
MPS Acquisition Process customization in a private or government organization

- Support
- Standard process
- Management process
- Organizational context
- Regulatory context
- Market context
Instantiation of the customized MPS Acquisition Process for a specific project

- Problem
- Customized process
- Project process
- Results
Customizing the MPS Acquisition Guide to MAPA: Feb.-Oct. 2006

- The Brazilian Ministry of Agriculture, Livestock and Food Supply (MAPA – Ministério da Agricultura, Pecuária e Abastecimento) adopted the MPS Acquisition Guide as a standard model to improve quality of basic projects in the Information Technology area and to assure contracting of services and products which satisfy the MAPA needs.

- The MPS Acquisition Guide was customized according to MAPA specific characteristics and following the Brazilian legislation related to the purchase of software, hardware and related services by government institutions (Law # 8,666:1993).

- The MPS Acquisition Guide customization started with a MAPA basic project focused on contracting Information Systems development and maintenance specialized services.
Customizing the MPS Acquisition Guide to MAPA: main achievements

✔ training the MAPA team (6 people) on the MPS Acquisition Guide

✔ development of a MAPA basic project for contracting specialized services on Information System development and maintenance

✔ use of the template (customized process) to instantiate two software basic projects (project processes) related to animal and vegetal defense with involvement of the end users

✔ inclusion of the customized acquisition process and its workflow in the MAPA Information Technology Strategic Plan
Customizing the MPS Acquisition Guide to MAPA: main difficulties

- inexistence of a multidisciplinary team equally proficient in the IT, bidding and legal affairs areas
- lacking of adequate government rules regarding software acquisition
- great number of constraints established by official control institutions such as the Brazilian Court of Audit (TCU – Tribunal de Contas da União)
- great difficulty in establishing suppliers evaluation and selection criteria which fulfill MAPA requirements and are compatible with legislation (Law # 8,666:1993)
- lack of guidance regarding Service Level Agreement (SLA) definitions
New fact (Aug. 2007): a future prospect


Summula: The Brazilian Court of Audit (TCU – Tribunal de Contas da União) recommends to the Planning Ministry (MP – Ministério do Planejamento, SLTI – Secretaria de Logística e Tecnologia da Informação, the Brazilian Government procurement authority) to promote the modeling and establishing of minimal rules for bidding and contracting IT services, considering the use of existing models as input for building its own model, such as those reported in the Decision related to this summula: MPS.BR (Acquisition Guide), ISO/IEC 12207 and 15504, IEEE STD 1062, eSCM-CL, Cobit, ITIL, PrATIco, CMMI-AM and PMBoK, taking into account that MPS.BR and PrATIco are models that were built supported by Brazilian public investments (item 9.1.2.6, TC-006.030/2007-4, Acórdão nº 1.480/2007-TCU-Plenário)

Ref: COCF’s announcement - "CONTA-TUDO" Nº 197, 3 Aug. 2007
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Conclusion: main challenges

- commit more qualified people, skillful institutions and interested organizations with the MPS Acquisition Guide
- improve periodically the MPS Acquisition Guide
- training on the MPS Acquisition Guide through official courses (C4), individual examinations (E4) and recycling workshops (W4)
- implement and assess software process in Brazilian organizations based on the MPS Model, including the MPS Acquisition Process
- certify MPS Acquisition Consultants (AC) to assist the organizations in their acquisition projects
- apply the MPS Acquisition Guide to organizations in actual acquisition projects both by customizing it and evolving it step by step, such as in the Brazilian MAPA
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• Thank You

• Questions?

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