Vorhersage mit CA CleverPath™ Predictive Analysis Server

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Agenda

- Herausforderung
- CP PAS
- Neugents
- Modelle
- Mustererkennung
- Tools
- CA World

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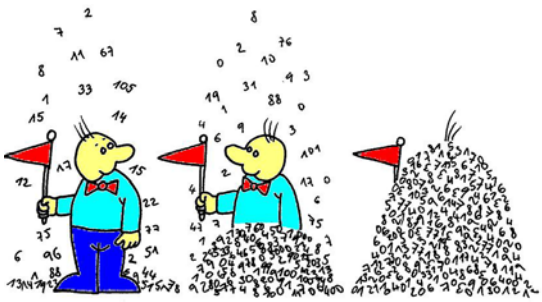
Herausforderung

- Agressiver Wettbewerb
- Wichtigkeit von guten Kundenbeziehungen

Herausforderung

- Bedarf an personalisierten Diensten
- Große Datenbestände mit hohem Zuwachs



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PAS: Predictive Analysis Server

Bietet eine Lösung mit Intelligenz auf Vorhersage um u.a.

- Systemausfälle zu minimieren
- Systeme gegen Mißbrauch zu schützen

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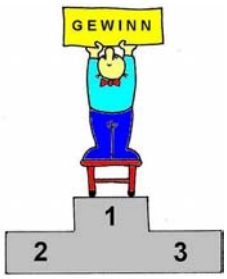
PAS: Predictive Analysis Server

Bietet eine Lösung mit Intelligenz auf Vorhersage um u.a.



- Gewinn zu erhöhen
- Kundenbeziehungen zu verbessern
- Wettbewerbvorteile zu erhöhen

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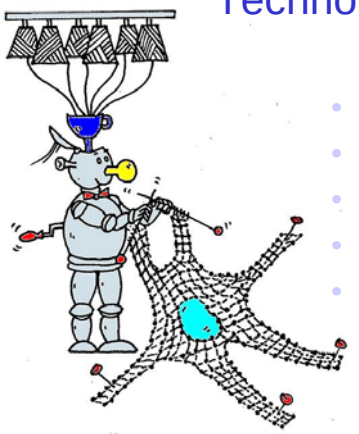
Neugents

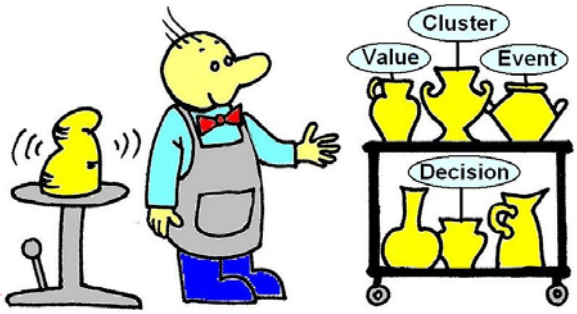
- PAS verwendet die patentierte Technologie „Neugents“ um



  - Muster zu erkennen
  - Zusammenhänge zu entdecken
  - Regeln zu extrahieren
  - Ereignisse zu prognostizieren
  - Optimumwerte zu finden

Modellbildung für Prognosen

- PAS entdeckt die Zusammenhänge zwischen Ursachen und Folgen, die
  - Für Experten zu subtil oder unbekannt sind
  - Zu komplex für andere statistischen Werkzeuge sind
- und bildet Modelle für Prognosen



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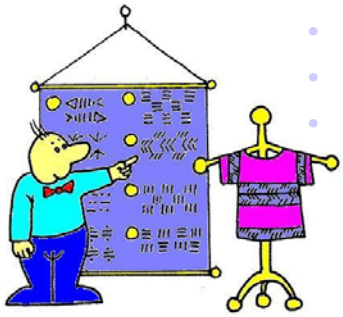
Mustererkennung

- Identifizierung von bekannten und Entdeckung von neuen Mustern



- Muster: clusters / profiles gebildet.
- Übergänge zwischen Mustern
- Neue Muster:
  - Ausnahmefall
  - Modellbildung

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Real-Time Intelligenz

- Verwendung von Modellen auch real-time für

- Betrugserkennung
- Personalisierung
- Cross-Selling
- Prozess-Steuerung
- Systemsicherheit

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Tools

- Advantage Intergation Server
  - Einbindung von Datenquellen
- Neugents IDE
  - Selektion / Manipulation von Daten, Statistiken
- Provider Wizard
  - Modell-Bildung und Verifizierung
- Optimization Wizard
  - Suchen nach Optimumwerten
- Deployment Wizard
  - Web Services, JSP, ASP, Java, COM, C++, VB
- Interaktive Tutorials
  - Beispiele

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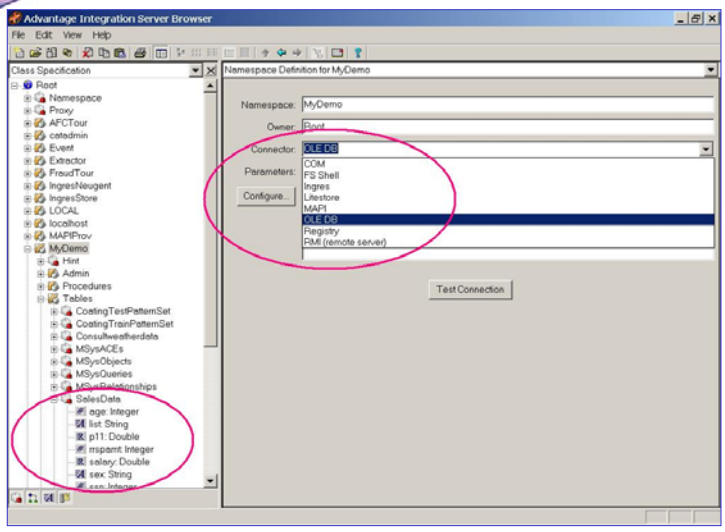
Tools: Advantage Integration Server



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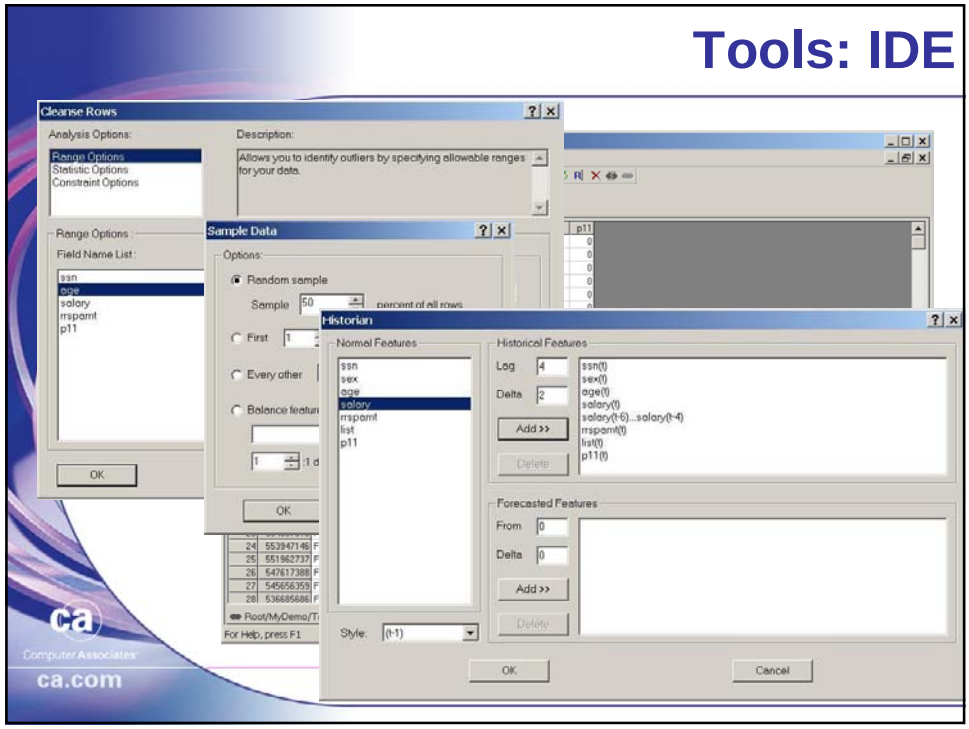
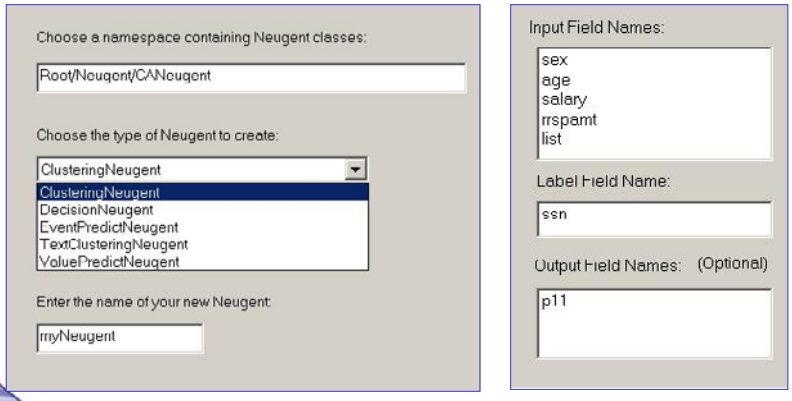
Tools: IDE



Tools: Provider Wizard

- Auswahl vom passenden Neugent
- Festlegen von inputs / outputs



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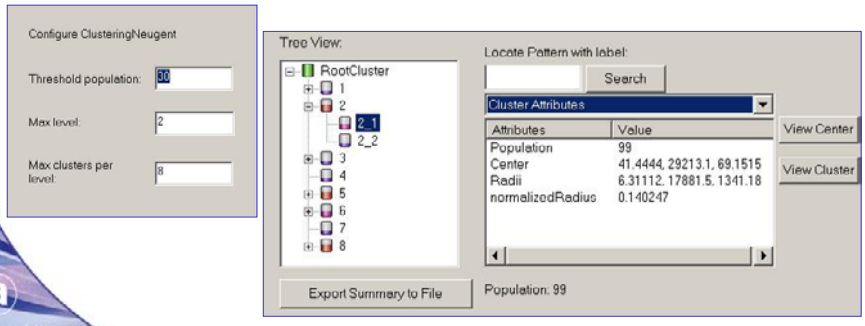
Tools: Provider Wizard- Clustering

- Z.B Kunden werden nach ihren Eigenschaften gruppiert
- Die „beste“ Gruppe kann ermittelt werden



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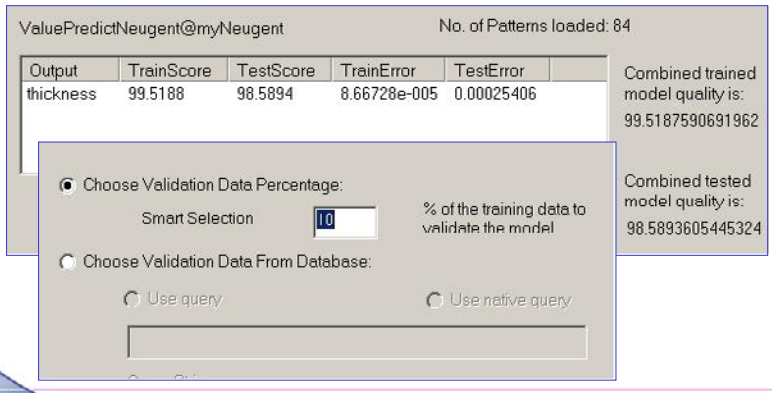
Tools: Provider Wizard- Value

- Z.B. Verkaufzahlen, Produktions-werte werden prognostiziert
- Qualität des Modells wird ermittelt



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Tools: Provider Wizard- Quality

ANOVA RSQ

$$\left(1 - \frac{\sum_{i=1}^{n}(y_i - \hat{y}_i)^2}{\sum_{i=1}^{n}(y_i - \bar{y})^2}\right) * 100$$

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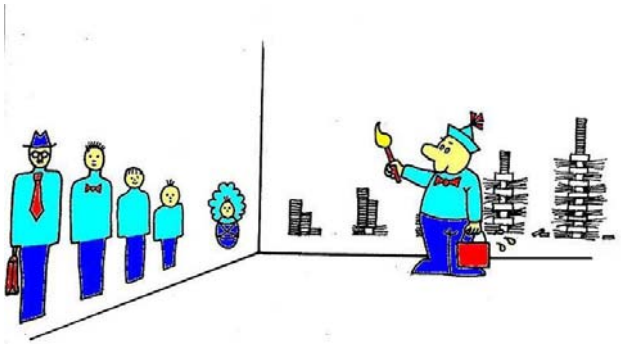
Tools: Provider Wizard- Quality



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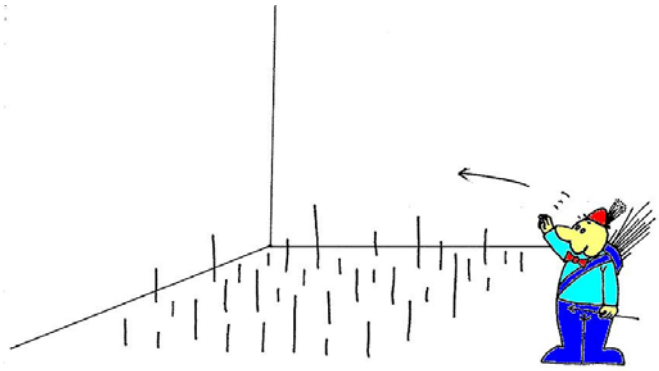
Tools: Provider Wizard- Quality



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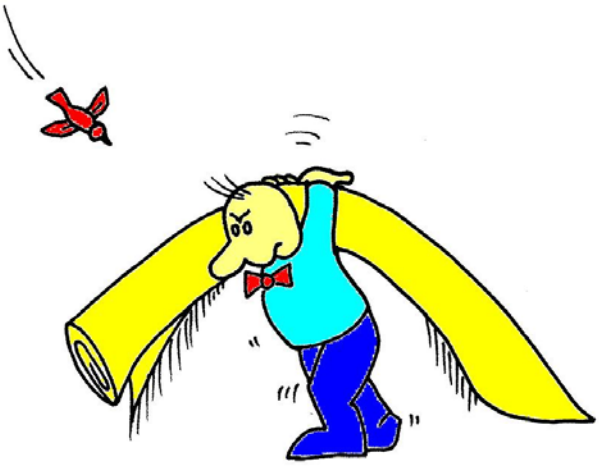
Tools: Provider Wizard- Quality



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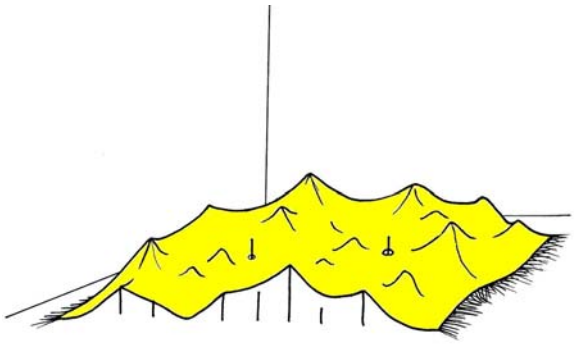
Tools: Provider Wizard- Quality



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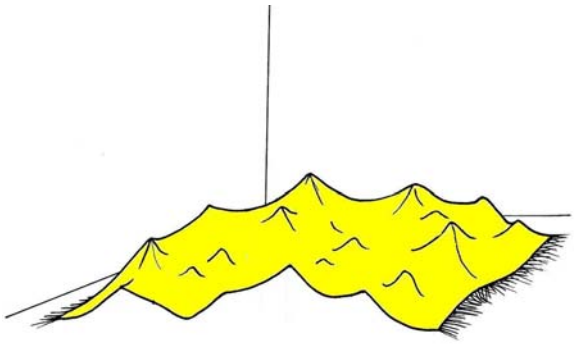
Tools: Provider Wizard- Quality



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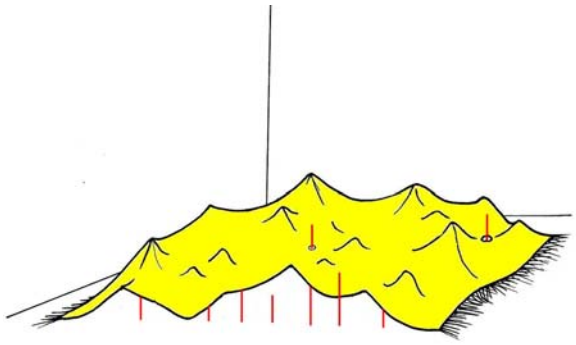
Tools: Provider Wizard- Quality



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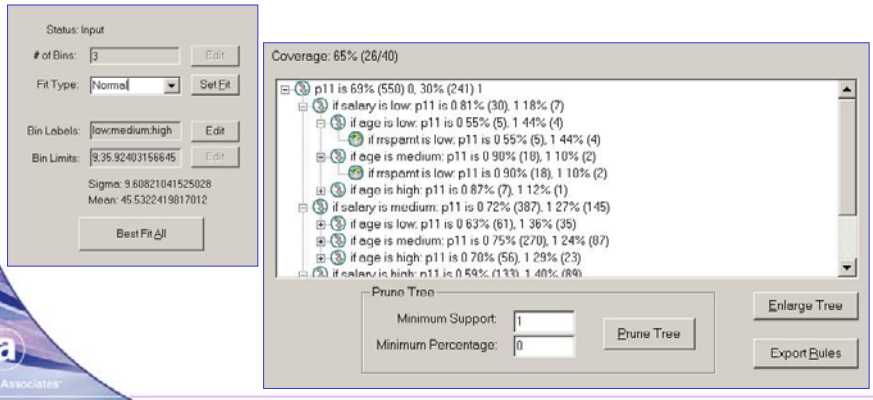
Tools: Provider Wizard- Decision

- Regel-Generierung
- Wird das Modell in Klartext übersetzt



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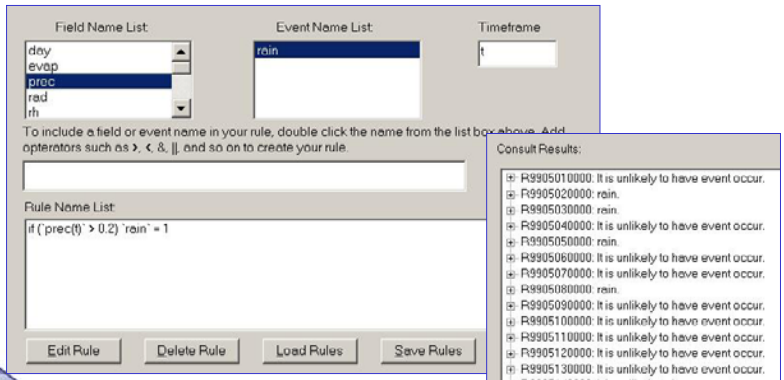
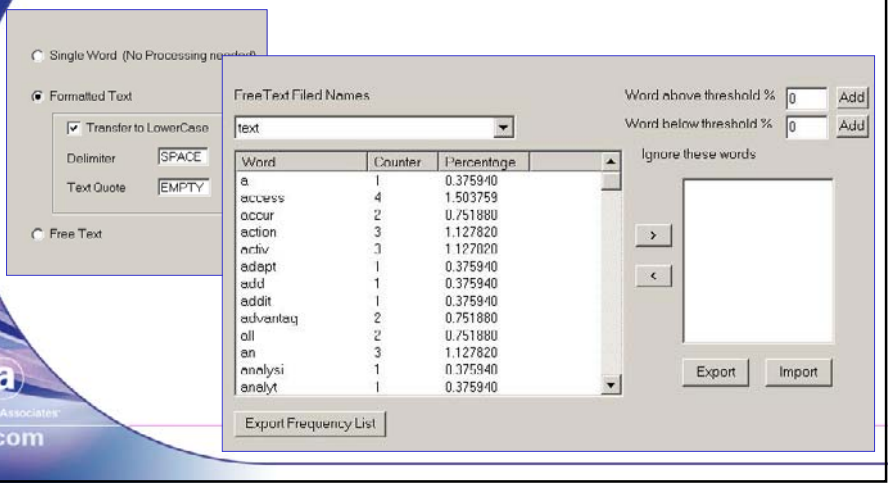
Tools: Provider Wizard- Event

- Die Wahrscheinlichkeit von Ereignissen (z.B. Wartung, Regen, Systemausfall,...) werden ermittelt



Tools: Provider Wizard- Text

- Klassifizierung von Dokumenten nach Inhalt
- Z.B. automatische Weiterleitung von e-mails



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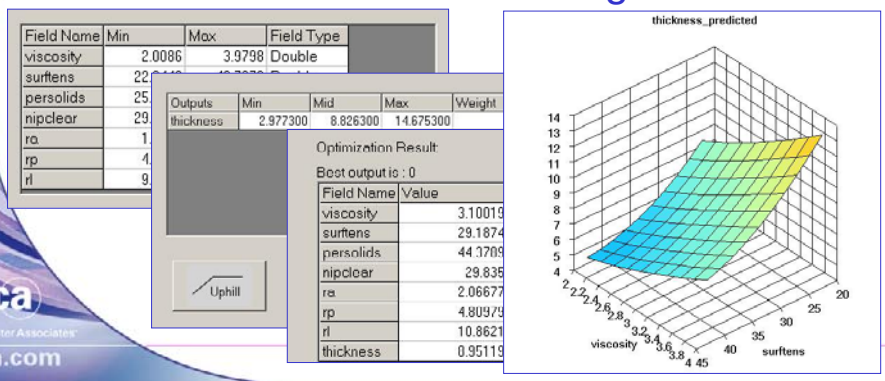
Tools: Optimization Wizard

- Sucht nach Optimumwerten (Value Neugents)
- Z.B. Entwicklung von Produkten, Produktionssteuerung



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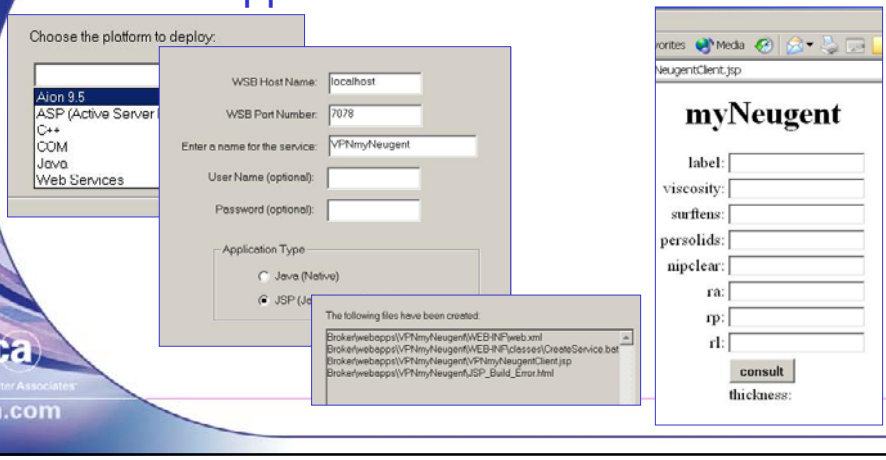
Tools: Deployment Wizard

- Generierung von Klassen
- Erstellen von kompletten Applikationen



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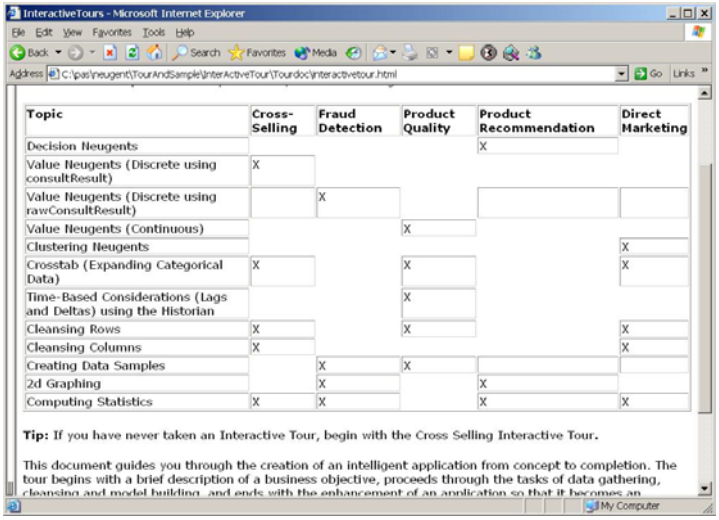
Tools: Interaktive Tutorials



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CA World – Termin, Lokation

- 13. – 17. Juli 2003
- Mandalay Bay Convention Center
- Las Vegas, Nevada
- http://ca.com/germany/caworld/

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