

# INDEX

## Numerics

80/20 rule, criteria for outsourcing,  
123–124

## A

**access management, 99**

VLANs, 100–101  
*extranets, 104–105*  
*intranets, 102–103*

VPNs, ARUP Laboratories, Inc.  
case study, 110–115  
webified business applications,  
105–106

**accessibility of intellectual  
property, 145–146**

**achieving consensus, 32–33**

**ALU (arithmetic logic unit), 55**

**application-centric QoS, case  
study, 156**

**applications**

enabling virtual presence, 74  
follow-me IP addresses, 81–82  
streaming media, 80  
VoIP, 75–76  
*implementing, 78*  
*latency, 77*  
webified, 105–106

**ARUP Laboratories, Inc., case study,  
108–115**

**AVVID (Architecture for Voice,  
Video, and Integrated  
Data), 62–63**

communications services, 64  
Internet business solutions  
layer, 64  
unified control plane, 64

## B

**bandwidth**

role in successful telepresence,  
94–95  
role in telecommuting, 98

**Barker, Joel, 4**

**board of directors, role of in BPV,  
10–11**

**BPV (business process  
virtualization), 2**

effect on organizational  
dynamics, 12  
incremental deployment, 5  
incrementalization, 13  
*horizontal, 13*  
*vertical, 14*  
origins of, 6  
role of board of directors, 10–11

role of executive management, 8–9  
 role of HR, 11  
 role of information technology  
     implementers, 9–10  
 role of legal staff, 11  
 role of technology, 6–8  
 service providers, 188–194  
**business assets, centralization, 3**  
**business models, Internet-based, 27–28**

## C

**calculating ROI for QoS implementation, 159**  
**call setup and termination, VoIP versus circuit-switched technology, 79**  
**capital as constraint on business, 24**  
**case studies**  
     ARUP Laboratories, Inc., 108–115  
     KnowledgeNet, 84–85, 89  
         *management attitude toward technology, 87*  
         *network overview, 85*  
         *security, 86*  
     Motorola, company background, 154–157  
     survey instrument, 180  
         *defining business process virtualization, 181–182, 184–185*  
         *format, 180–181*  
     vCustomer Corporation, 40–47  
**CBT (computer-based training), 88**  
**CDM (Cisco Quality of Service Device Manager), 78**  
**centralized management, 3**  
**centralized processing environments, 55**  
**CIA (Confidentiality, Integrity, and Authorization), 142**  
**CIR (committed information rate), 102**

**circuit-switched technology, 78**  
**Clarke, Arthur, 94**  
**communication services, AVVID, 64**  
**compartmentalization, 145**  
**competitive advantages of virtualization, 174–175**  
**compression technology in streaming media, 80**  
**control plane of AVVID, 64**  
**core business functions**  
     IT, 25–26  
     R&D, 26  
**cost of conversion, calculating TCO, 167**  
**cost-benefit analysis**  
     calculating total cost of ownership, 164–165  
         *cost of conversion, 167*  
         *depreciation, 165*  
         *personnel, 167*  
         *training, 166*  
     of outsourcing, 118–120  
     ROI, 169–170  
**CPM (Cisco Quality of Service Policy Manager), 78**  
**criteria for outsourcing**  
     80/20 rule, 123–124, 128–131  
     cyclical nature of business, 20

## D

**Data Age, 28**  
**data overload**  
     effect on decision making, 29–30  
     role of industry and financial analysts, 30  
**decision making**  
     achieving consensus, 32–33  
     data overload, effect on, 29–30  
     improving through  
         virtualization, 173  
     reduction, 33  
     validation, 33

- decision modeling, 34**
  - for selecting outsourcers, 129–131
  - gaming strategy, 31
  - Monte Carlo Analysis, 37
  - sensitivity analysis, 37
- deploying VoIP, 78**
- depreciation, calculating TCO, 165**
- directory-enabled policy-based management, 147**
  - asset allocation, 149
  - LDAP, 148–149
  - theoretical nature of, 149
  - XML, 150
- distribute storage, 56–59**
- distributed intelligence, 59–60**
- dot-bomb, 22**
  - lessons learned, 21
  - technology as cause of, 23

## E

- education, Internet-based learning, 84–91**
- e-learning. *See* Internet-based learning**
- employee contracts, securing intellectual property, 143**
- employees of virtual businesses, 51–52**
  - telepresence, 96–98
    - access management, 99*
    - need for bandwidth, 98*
  - training, CBT, 88
- enabling virtualized presence through applications, 74**
  - follow-me IP addresses, 81–82
  - streaming media, 80
  - VoIP, 75–78
- ERP (enterprise resource planning) applications, 150**
- evaluating outsourcers performance, 125–126**
- executive management, role of in BPV, 8–9**
- extranets, 104–105**

## F

- follow-me IP addresses, 81–82**
- Frame Relay, 102**
- fulfilling customer needs as goal of virtualization, 172**
- functions of core business**
  - IT, 25–26
  - R&D, 26

## G

- gaming strategy, effect on decision modeling, 31**
- geographical dispersion of virtual businesses, 51**
- goals of virtualization**
  - fulfilling customer needs, 172
  - improved decision-making, 173
  - obtaining competitive advantage, 174–175
  - reduced costs, 163–164
- Greenspan, Alan, “irrational exuberance” comment, 14**

## H-I

- Heisenberg Uncertainty Principle, 30**
- horizontal incrementalization, 13**
- HR, role of in BPV, 11**
- impact of technology on business models, 14**
- implementing**
  - VoIP, 78
  - QoS, case study, 154–159
- improved decision-making as goal of virtualization, 173**
- incremental deployment of BPV, 5**
- incrementalization, 13**
  - horizontal, 13
  - vertical, 14

**information poverty, effect on decision making, 29–30**

**intellectual property, 3**

- accessibility of, 145–146
- compartmentalization, 145
- impact on outsourcing, 120
- jeopardizing through outsourcing, 127
- role-based access control, 150–151
- securing, importance of, 142
  - employee contracts, 143*
  - regional threats, 144*

**intelligent switch fabric, 61–62**

**internal security**

- employee contracts, 143
- importance of, 142
- intellectual property
  - accessibility of, 145–146*
  - compartmentalization, 145*
  - role-based access control, 150–151*
- regional threats to, 144

**Internet business solutions layer (AVVID), 64**

**Internet-based business models, 27–28**

**Internet-based learning, KnowledgeNet case study, 84–91**

**intranets, 102–103**

**IP (Internet Protocol)**

- intelligent switch fabric, 61–62
- headers, 77

**“irrational exuberance” of market valuation, 14, 24**

**IT (information technology)**

- as core business function, 25–26
- functions of, 119
- implementers, role of in BPV, 9–10
- operations management, 124
  - evaluating outsourcers performance, 125–126*
- outsourcing, 119–120
  - jeopardizing intellectual property, 127*
  - multiple services, 127–128*

- shelf life of new technologies, 122*
- volatility of, 126–127*
- supply and demand, 23

## J-K

**jeopardizing intellectual property through outsourcing, 127**

**jitter, 77**

**knowledgemanagement, relationship to project responsibility, 146**

**KnowledgeNet case study, 84–89**

**Kuhn, Thomas, 4**

## L

**labor as constraint on business, 24**

**latency of VoIP traffic, 77**

**LDAP (Lightweight Directory Access Protocol), 148–149**

**leasing office space versus purchasing, 121**

**legal staff, role of in BPV, 11**

## M

**managed services**

- outsourcing
  - criteria for, 123*
  - multiple services, 127–128*
  - selecting outsourced services, 128–131*
  - shelf life of new technologies, 122*
  - volatility of, 126–127*
  - quality of services, 151–152

**management technologies, outsourcing, 123–124**

**Mceelely, Scott, 52**

**memory, distributed storage, 56–59**

**modeling decision-making process, 34**

- Monte Carlo Analysis, 37
- sensitivity analysis, 37

**Monte Carlo Analysis, 37**

**Motorola case study**

- company background, 154–155
- implementing QoS, 156–157

**multiple services, outsourcing, 127–128**

## N

**NANP (North American Numbering Plan), 79**

**NAS (network-attached storage), 57**

**networked computers**

- distributed storage, 56–59
- processing versus standalone computers, 54–56

## O

**objectives of virtualization, 163–164**

**obtaining consensus, 32–33**

**office space, leasing versus purchasing, 121**

**operations management of outsourced activities, 124**

**organizational dynamics, 12**

**origins of BPV, 6**

**out-of-band signaling, 79**

**outsourcing, 2**

- cost-benefit analysis, 118–120
- criteria for, 123–124
- intellectual property, jeopardizing, 127

**IT**

- operations management, 124*
- shelf life of new technologies, 122*

**management technologies, 123–124**

**multiple services, 127–128**

**reliability of, 128**

**selecting outsourced services, 128–129, 131**

**volatility of, 126–127**

## P

**packet-switching, follow-me IP**

**addresses, 81–82**

**paradigm stagnation, 4**

**performance of outsourcers, evaluating, 125–126**

**personnel, calculating TCO, 167**

**Peters, Tom, 24**

**Pierce, John, 30**

**policy engines, 149**

**policy management, effect on VoIP QoS issues, 78**

**policy-based management, 59–60**

- directory-enabled, 147
- asset allocation, 149*
- LDAP, 148–149*
- theoretical nature of, 149*
- XML, 150*

**impact on company resources, 60**

**role-based access control, 150–151**

**portability, follow-me IP addresses, 81–82**

**portals, 106**

**protecting against outsourcing**

**volatility, 127**

**purchasing office space, total cost of ownership, 121**

**PVCs, 102**

## Q-R

**QoS (quality of service), case study, 151–152**

- application-centric, 156
- implementing, 154–159
- Motorola, 156–157

**R&D as core business function, 26**

**reduced costs as goal of virtualization, 163–164**

**reduction, 184**

**redundancy, 165**

**regional threats to security, 144**

**reliability of outsourcers, 128**

**remote workers, telepresence, 96, 98**  
 access management, 99  
 need for bandwidth, 98

**ROI (return on investment), 169–170**  
 calculating for QoS  
 implementation, 159

**roles in BPV implementation**  
 board of directors, 10–11  
 executive management, 8–9  
 HR, 11  
 information technology  
 implementers, 9–10  
 legal staff, 11  
 technology, 6, 8

**routing, intelligent switch fabric, 61–62**

## S

**SAN (storage area network), 57**

**Santayana, George, 20**

**security**  
 access management  
*VLANs, 100–105*  
*webified business applications, 105–106*

CIA, 142

complexity of controlling, 146

directory-enabled policy-based management, 147  
*asset allocation, 149*  
*LDAP, 148–149*  
*theoretical nature of, 149*  
*XML, 150*

employee contracts, 143

importance of, 142

intellectual property  
*accessibility of, 145*  
*compartmentalization, 145*  
*role-based access control, 150–151*

quality of service, 151–152

regional threats, 144

**selecting**  
 networked infrastructure for  
 outsourcing, 123–124  
 outsourced services, 128–129, 131

**sensitivity analysis, 37**

**service providers (BPV services), 188–194**

**service quality, 151–152**

**simple decision-making model, 34**  
 Monte Carlo Analysis, 37  
 sensitivity analysis, 37

**SLAs (service-level agreements), reliability of outsourcers, 128**

**standalone computers versus networked computers**  
 processing, 54–56  
 distributed storage, 56–59

**stock market, “irrational exuberance”, 14, 24**

**structural components of virtualized businesses, 50**

**structured decision model, 16**

**survey instrument for case studies, 180**  
 defining business process  
 virtualization, 181–185  
 format, 180–181

## T

**Taylor, Frederick Winslow, 8**

**technology**  
 as cause of dot-bomb, 23  
 as impetus for optimism, 25  
 impact on business models, 14  
 role of in BPV, 6–8  
 shelf life, 122

**telecommuting, 96–98**  
 access management, 99  
 need for bandwidth, 98

**telepresence, 94**

- role of bandwidth, 94–95
- telecommuting, 96–98
  - access management, 99*
  - need for bandwidth, 98*
- VLANs, 100–101
  - extranets, 104–105*
  - intranets, 102–103*
- webified business applications, 105–106

**theoretical nature of policy management, 149**

**tornado diagrams, displaying sensitivity analysis, 37**

**total cost of ownership, 164–165**

- calculating, 164–165
- cost of conversion, 167
- depreciation, 165
- personnel, 167
- purchasing office space versus leasing, 121
- training, 166

**training**

- calculating TCO, 166
- CBT, 88

## U-V

**unified control plane, AVVID, 64**

**validating decisions, 33**

**vCustomer Corporation case study, 40–47**

- planning process, 43–45

**vertical incrementalization, 14**

**videoconferencing, 81**

**virtualization, 2**

**virtualized presence, 94**

- role of bandwidth, 94–95
- telecommuting, 96–98
  - access management, 99*
  - role of bandwidth, 98*

VLANs, 100–101

- extranets, 104–105*
- intranets, 102–103*

webified business applications, 105–106

**VoIP (Voice over IP)**

- enabling virtualized presence, 75–76
- implementing, 78
- latency, 77
- versus circuit-switched architecture, 78

**volatility of outsourcing, 126**

- protecting against, 127

**Von Neumann model of computer architecture, 53**

- distributed intelligence, 59–60
- input, 53
- output, 53
- standalone computers versus networked computers, 54–56
  - distributed storage, 56–59*

**VPNs, ARUP Laboratories, Inc. case study, 110–115**

## W-X-Y-Z

webified business applications, 105–106

**XML (Extensible Markup Language), 150**