



## Technology Checklists

Use these lists to trigger your thinking when developing requirements.

### ***Feature and Function considerations for each major technology***

1. Core ACD
  - Queuing
  - Conditional Routing (see next section for more)
  - Work states (e.g., types of unavailable states)
  - Call treatment (messages in queue, music on hold)
  - Desktop options (hard phone, soft phone)
  - Call codes/Wrap-up codes
  - Auto greetings
  - Auto available/manual available
  - RONA
  - Auto answer (zip tone)/manual answer (ringing)
  - Service observing (live monitoring)
    - Barge-in
    - Consult/Messaging
  - IP or TDM
    - Phone protocols (e.g., SIP, proprietary)
    - SIP trunking from cloud? Within components?
  - Agent DID?
  - Agent voice mail?
    - Voice mail escalation, route back to queue?
  - IM/Presence
  - Home agents
  - Satellite offices
  - DRP/BCP capabilities
  - (see multimedia elements for non-voice media specific elements)
  - Collaboration tools
  - Video
2. Routing
  - Single site
  - Multisite
    - Virtualization
  - Multimedia/Multi-channel/Omnichannel
    - Email
    - Web chat
    - Text/SMS
    - Co-browse/Screen share
    - Web call back
    - Outbound
    - Voice mail
    - Social media
      - Search capability
      - Route as contact
    - Blended queue/universal queue



- Mobile app
  - Fax
  - Tie email/chat/Text session to CRM customer file
  - Work object (item in a work flow or business process)
  - Conditional routing
    - Look-ahead
    - Prioritization
    - Variables in routing tables
    - Expected Wait Time
  - Context routing based on:
    - Data on customer contact history
    - Integrated data on customer profile/account
  - Prompting (caller entered digits)
  - Skills based routing
  - Route back to last agent handling the contact
  - Data directed routing
  - Predictive algorithms
  - Outbound calling
    - Predictive
    - Preview
    - Progressive
  - Outbound alerting/notification (via voice call, email, text, etc.)
  - Music on hold sources (number, type, streaming)
  - Call-back queue function
    - Estimated wait time based on current queues and staffing
    - Caller choice to be called-back while maintaining their place in queue
    - Confirm captured number from ANI and/or prompt for number to call back
    - Recognize a subsequent call back for caller already in queue to offer appropriate choices to cancel call back or retain position in queue for call back
    - Offer the option to schedule a call back at the caller's preferred time
    - Standard Reports to show both current status of calls queued for call back and historical results of number of calls, time to call back versus scheduled or estimated time, connection success rate, etc.
  - User interface for developing routing paths
3. IVR
- VXML or proprietary application development
  - Ability to assign IVR ports as agent groups/skills
  - IP or TDM
  - Speech recognition
    - Structured/directed dialog
    - Natural language
  - Text to Speech
  - Voice authentication/biometrics
  - Artificial intelligence
  - Personalization/dynamic menus
  - Bots
  - FAX functions
  - User interface for developing applications, creating grammars
  - Testing tools
  - Prompt editing tools



- Pre-packaged applications
- Other applications
  - Voice of the Customer
  - Call Back Queuing (also in #4 above)
  - Proactive Outbound
- Post-call surveys
- Reporting
- 4. Multimedia/web collaboration
  - Email
    - Auto-acknowledgement with customizable messages based on business rules (e.g., based on “to” address, subject)
    - Auto-response to commonly asked questions
    - Auto suggestions for representatives to review to use in crafting appropriate responses
    - Email response library with administration and management controls to maintain content
    - Standard greetings and closings to use in crafting messages
    - Tracking of all inquiries
    - Multithreading to tie together emails from same customer, on same topic
    - Auto spell-check
    - Business rules routing to appropriately skilled agents based on “to” address, subject, content, time, and customer type
    - Escalation rules to notify supervisors and trigger follow-up to meet response commitments
    - Receives customer inquiries via e-mail or Web forms
    - Collaboration methods for SMEs outside the center
    - Ability to customize response with logo, individual rep’s email address or general email address, and subject line
    - View all emails in queue
    - List character limits for email responses
    - Reporting on email queues and status in real-time, and volumes, handle times, response times, and other metrics for historical tracking and trending
  - Web chat
    - Parsing
    - Auto-acknowledge
    - Auto response
    - Suggest response
    - Libraries
    - (other functions similar to Email above, including leveraging common libraries)
  - Web calls
  - Video calls
  - SMS/Text
  - Mobile apps
    - Integration to CC agents (call me/call/SMS/text)
    - Visual IVR
  - Outbound
  - Voice mail
  - Web collaboration (page pushing, co-browsing)
  - Social media integration
  - Blended queue
  - Work object (item in a work flow or business process)
  - See routing
  - See reporting



5. Outbound calling
  - Predictive
  - Preview
  - Progressive
  - User interface for developing campaigns
  - Blend outbound with inbound
  - Automated outbound applications (alerting, notification)
    - Voice
    - SMS/Text
    - Email
6. Reporting
  - Real-time reports
  - Historical reports
  - Report categories
    - DNIS/pointer number
    - Routing path/table
    - Site
    - Group/team
    - Skill
    - Agent
    - Trunk
    - Cradle-to-grave
  - Scheduling reports
  - Graphical reports
  - Report customization
  - Supervisor tools
    - Dashboards
    - Mobile apps – tablets, smartphones; widget configurability
  - Desktop tools for CSRs (e.g., displays, buttons, softphones, ticker tapes)
    - Including Idle, Wrap, Hold, schedule adherence, compliance scores
  - Wallboards/readerboards
  - User interface for viewing and creating reports
  - Multichannel reporting
7. Call Recording
  - Record all calls
  - Record percentage
  - “Business rules” to define types of calls to record
    - Inbound
    - Outbound
    - Auto delete by timeframe
  - Access control for playback by individual, group, etc.
  - Recording on demand from desktop
  - Line side, trunk side, IP interface to record
  - IP or TDM
  - Data automatically captured
  - CTI to capture more data
  - Hot seating (shared desks)
  - Search functions
  - Playback options
    - Phone



- Desktop
  - Data storage options
    - Interface to open storage
  - “Intelligence” or mining capabilities (speech analytics – see below)
    - Text-based
    - Speech-based
  - User interface for administration - searching, analyzing, reviewing, reporting
8. Quality Monitoring
- Random, scheduled, percentage, on-demand recordings
    - Vary on voice vs. screen capture
  - Other media (text-based) – email, chat, social
  - “Business rules” to define numbers and types of calls to capture
  - Line side, trunk side, IP interface, service observing to record
  - IP or TDM
  - Capture voice and data (CTI)
    - Capture email and web chat
  - Hot seating (shared desks)
  - Customizable scorecards
    - By media
    - By group/team/department
  - Reports
    - Templates
    - Customization
    - Distribution
  - Calibration
  - Trending and comparisons
  - User interface for administration - scoring, viewing and creating reports
  - User profiles and security (administrator, supervisor, CSR)
  - Integration with WFM tool
9. Speech Analytics (multi-channel below)
- Search methodology
  - Business rules for queries/analytics
  - Tools for rules building, testing, optimizing
  - Reporting
    - Canned, compliance, real-time, scheduled, customized, exceptions, etc.
    - Filter
    - Contact drill down
  - Technical characteristics
    - Speech/text analysis approach
    - Volume
    - Timeframe
      - Real-time
    - Speed
    - Accuracy
10. Other analytics (multi-channel)
- Data
    - May be part of enterprise but consider integration, fit, use of application for contact center
  - Desktop
    - Access by application



- Time per action
- Time in application
- Text
  - Similar to speech analytics for text-based communications (email, Web chat, social media, etc.)
- Multi-channel/Cross-channel/Omni-Channel
  - Analytics by channel (IVR, web, etc.) and across channel for end-to-end customer experience (e.g., crossing channels, multi-channel interactions)

#### 11. Workforce management

- Forecasting
- Rostering
- Scheduling
  - Assigning staff to fill schedules
  - Phone and other activities
- Tracking
- Skills simulation
- Reporting
  - Templates
  - Customization
- Multimedia support
  - Email
  - Web chat
  - Other – e.g., social, SMS/text
- Multisite
- Real-time adherence
- Exception management
- Link to payroll
- Time off management
  - Vacation scheduling requests and approvals
  - Wait listing
  - Training scheduling
  - Overtime
  - Shift and vacation trades (business rules driven and/or approval processes and workflows)
- Shift definition and bidding
  - Customized ranking criteria
    - Seniority
    - Performance
    - Combination
  - Agent staff information
  - Availability
  - Preferences
- “What if” scenarios
- User interface for administration
- User interface for CSRs/Supervisor requests and view
  - Agent views of shifts, schedules

#### 12. Performance Optimization/Scorecards/Dashboards

- Integration with various data sources
  - ACD, WFM, CRM, QM, IVR, CTI, etc.
- Scorecard tools



- Defining KPIs
  - Configurability
  - Different user levels
  - Reports
    - Real-time visibility
    - Templates
    - Customization
  - Trending
  - Analysis
  - User interface for viewing and creating scorecards and reports
  - Benchmarking data
13. eLearning
- Module creation or insertion
  - Delivery by individual, group, or timeframe
  - Integration
    - WFM
    - QM
    - Other training resources
  - Testing/Scoring
  - Reporting
14. Coaching
- Coaching modules
    - QM recording comments and feedback
  - Tracking coaching activity and outcomes
  - Integration with other performance tools
    - QM
    - QFM
    - Reporting
    - eLearning
15. Customer Satisfaction Surveys/Voice of the Customer
- Media – IVR after call, follow up phone calls, email, postal cards, web, fax, text SMS
  - Sourcing – in-house/outsourced, premise/cloud
  - Survey Targets: All Customers, New Customers, Defecting Customers, Random Sample, percentage or every X, Selected
  - Reporting/Analysis of results: WHAT gets reported, to WHO, via WHICH media/process
  - Ad hoc surveys versus periodic surveys
  - Question types
  - Response types (e.g., checkboxes, ranking scales, dropdown boxes, essay, open-ended, etc.)
  - Survey triggers (e.g., VIP, time-of-day, random, Excessive Time On Hold, etc.)
16. CTI
- Screen pops
    - Transfer
    - Conference
    - Pop the opt-out path of the IVR
    - Pop to CRM based on CED
  - Integration points
    - Call center applications (e.g., IVR, QM)
    - Back office systems (e.g., Database, CRM, KM, Customer Information System)
  - Routing



- Skills
- Multisite
- Multimedia
- Data directed
- Reporting
  - Cradle to grave
  - Integrated contact information and business application outcome
- Softphone, ticker tape, desktop statistics
- Multimedia routing and reporting
  - Email
  - Web chat
  - Web call back
  - Outbound
  - Voice mail
  - Web collaboration (page pushing, co-browsing, screen share)
  - Blended queue/universal queue
  - Work object (item in a work flow or business process)
- Outbound dialing
  - Preview
  - Predictive
  - Power/progressive
  - Blending
  - Outbound alerting/notification via voice call, email, text, etc.

#### 17. CRM

- Contact tracking
- Customer profiles
- Business rules/workflows
- Corporate library
  - Document repository
- Sales force automation
  - Opportunity tracking and analysis (leads, win/loss, etc.)
- Service functions
  - Issue tracking and analysis (logging, tracking, escalation, closure, etc.)
- Marketing
  - Campaign management
  - Lead management
  - Event management
- Reports and analytics
  - Contacts
  - Business outcomes
- Scripting
  - Upsell/cross-sell
  - Compliance
  - Informational
  - Other
- Fulfillment
  - Mailings
  - Fax
  - Email
- Workflow (business process automation)





- Multimedia support
  - Email management
  - Web chat
  - Text/SMS
  - Blended queue
  - Embedded in product or via interface to CTI/Reporting/Reporting
- Web options
- User interface for end users (sales, service, marketing)
- User interface for developing business rules, running reports and analytics
- Social CRM
  - Social media search capability
  - Case creation based on search results
  - Access control

#### 18. Knowledge Management

- Authoring and publishing workflows and content
  - Workflow = steps tied to content, users, etc.
  - Creating, editing, publishing, version control
- Suggested content
  - By internal users
  - By external users/customers (via company web site)
- Management and maintenance
  - Content updates – recommendations, expiration dates, reviews
  - Workflow analysis
  - Rating analysis
  - Contribution analysis
- User controls
  - Profiles and security (including access, interface, content/input)
- Channels – differences by access and user type
- Feedback
  - Surveys, ratings, content recommendations
- Sophistication levels/options
  - Electronic documentation/library
  - Search functions
  - Case-based system
  - Expert system
- User interface for end users to find and use knowledge
- User interface for administering new knowledge
- User interface for external users via web
- Integration with CRM, email system, or other tools

#### 19. Wikis

- Internal ecosystems
- External ecosystems
- Access control
- Community management
- Authoring and publishing workflows and content
  - Workflow steps tied to content, users, etc.
  - Creating, editing, publishing, content control

#### 20. Consolidated Desktop Applications/Integrated Desktop/Unified Agent Desktop

- Workflow automation and business logic
- Visual integration – desktop, dashboards, tool bars



- Single view of the customer
  - Interaction insight – collect data on agent navigation
  - Single sign-on enablement
  - Training modules
  - Call scripting
  - Up-sell and cross-sell
  - Business adherence and compliance
  - Triggers, alerts
  - IT notifications of system failures
21. Mobile Apps
- Visual IVR
  - Self-service
  - Integration to contact center
22. Skype For Business integration
- Just for IM/Presence
  - Using SFB for PBX
23. Niche/Emerging technologies – may be opportunities as well
- Virtual assistants/Bots
    - Various channels – web, mobile app, text, voice
  - Desktop coaching/guidance, scripting
  - Workflow/process automation
  - Gamification

### ***Technical/Architecture considerations***

1. Overall architecture
  - Client/server or browser-based applications
  - Web services or other standard architectures
  - Network connectivity and options
  - Service Oriented Architecture (SOA)
  - REST API
  - Session Initiation Protocol (SIP)
  - Contact center/enterprise interoperability
    - Enterprise presence
    - Collaboration
  - Citrix environment
2. Hardware architecture
  - Any standards or specific hardware platforms
    - Desktop
    - Servers
  - If cloud – equipment on site (required or optional)
3. Software architecture
  - Operating system
    - Desktop
    - Servers
  - Databases
  - Development environment
4. Testing/monitoring tools, applications, services
  - Network
  - Applications



- Desktop
- 5. Integration tools
  - Standards
  - Interfaces
  - APIs (e.g., REST API)
  - Web services
  - Integration with other systems:
    - Integration to legacy systems
    - Integration with core applications (e.g. CRM, KM)
    - CTI integration
    - IVR integration
    - Performance tool integration (e.g., QM, WFM, Analytics)
    - DB integration
    - Etc.
- 6. Scalability
  - Sites
  - Seats
  - Ports or Sessions
  - Virtualization capabilities
- 7. Management/Administration tools
  - Any standards
- 8. Reliability
  - Architecture
  - Level of redundancy
  - Failover ability, timing
  - Preservation of calls in queue
  - Data centers
  - Network connectivity
  - Options
- 9. Performance
  - Network
  - Systems
  - Desktop
  - VoIP
  - IVR
  - CTI
  - Etc.
- 10. Security
  - Network
  - Data
- 11. Disaster recovery/Business continuity
  - Across sites
  - Within site

### ***Sourcing considerations***

1. Buy vs. Build
2. Best of breed vs. Suite
3. Premise vs. Hosted/Cloud (and variations within cloud offerings – e.g., shared/multi-tenant or single tenant) vs. Managed Services



4. Open source vs. product
5. Vendor/distributor/VAR roles, responsibilities, relationships

## ***Implementation***

1. Phasing
  - What systems/features want out of box?
  - What systems/features want to quote, but installed in future phase?
  - What systems/features just for vendor capabilities?
2. Approach
  - Process, roles and responsibilities, timeline
  - Knowledge transfer
  - SOW
  - Discovery
  - On-site vs. remote requirements/preference
2. Training
  - Instructor-led, Onsite vs. online
  - Media types
  - Audience (agent, supervisor, administrator)
  - Train-the-trainer
3. Testing – who does what (draft test plans, conduct tests, resolve, regression test)
  - All types of testing – system, SIT, UAT, load, etc.

## ***Support***

1. Hours
2. NOC
3. Help Desk
4. Upgrade process
5. SLAs and Remediation