It’s all Gibberish to Me:
Demystifying Call Center Technology

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KICK-OFF QUIZ
On-Line Quiz & Instant Results

- Take this quick, on-line call center technology quiz
- Use your smart phone: only three questions
- Cumulative results displayed here
- URL is...
WHY & WHY YOU?
Why?

Why a basic understanding matters...

and

improves your contact center
Why You?

Why **YOU** matter more than you think

in purchase & configuration decisions
Any organization can make a mistake when choosing contact center technology.

Three Cases

**Small**

**Huge**

**Expert**
You Can Be a Hero

How **YOU** can be a hero...and help avoid expensive technology mistakes...

- Ask basic, simple questions
  - Example: What does it do?
- Ask for clear, understandable answers
- Later: Seven “must ask” questions
Ask the Simple, Basic Questions

- How does this help us do our work
  - Better?
  - More easily?
  - Faster?

- Now, a few things to think about...
Non-people costs are for tools that enable, facilitate or improve personal interactions, management or outcomes.

To what extent will this technology tool do so?
Customer Experience Model
How does this tool improve performance?

Call Center Performance
- Service Level
- Once & Done Contacts
- Competence & Knowledge & Confidence
- Tone & Attitude

Customer Experience
- Do I have to wait in a long line, short line or no line?
- Do they get me what I need when I ask for it?
- Do they know what they are doing?
- Do they care about me?

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What Each Does, When to Use, When Not to Use

TECHNOLOGY COMPONENTS
Demystifying System Diagrams
Network “Pipes” – T-1 & MPLS

- **T-1**: 1.544 Mbps - a type of data line
  - Point-to-point or to connect to tel. co./Internet, or
  - Pure data, or
  - IP – internet protocol, or
  - VoIP – internet protocol, or
  - Typically 23/24/44 voice lines

- **MPLS**: a type of data line
  - A data line, available at many speeds, that uses a speedier addressing system
  - Works with all protocols

- **Which to use?**: IT decides…but what if it fails?
Phone Switches

- Why are they called switches?

- PBX/PABX
  (private branch exchange)
Blocking & Talk Paths

- **Blocking**
  - Call can’t be processed – no path for it
- **Non-blocking**
  - There’s a path for every call
- **Talk path**
  - An electronic path / road that carries one phone conversation inside a phone system
- **Time slot**
  - The digital version of a talk path
Call Center Call Routing

- **ACD** (automatic call distributor)
  - Inbound calls
  - Routes calls to next available rep
  - Accepts 1-2 calls/phone rep

- **IVR** (interactive voice response)
  - Caller selects route for their call
  - Responds to DTMF (dual tone multiple frequency)

- **Predictive Dialer**
  - For outbound calls
  - Dials 1.25-3 lines/phone rep
  - Regulatory compliance: Fed & State
CC Phone Systems – Inside the Box

- **PBX:** phone lines per ext. = 0.2 (20%)
  - 200 phone lines
  - 1000 extensions
  - 200 phone talk paths / time slots (typical)

- **ACD:** phone lines per ext. = 2 (200%)
  - 200 phone lines
  - 100 extensions
  - 100 agent talk paths / time slots (required)

- **Predictive dialer:** lines per ext. = 3 (300%)
  - 300 phone lines
  - 100 extensions
  - 100 agent talk paths / time slots (required)

The above is slightly simplified. It does not account for talk paths that may be required to play recorded announcements to callers, for conference calls, etc. Also, precise lines/extension may vary slightly.
Workforce Management & Quality

- WFM systems: typically 50-100+ agents
  - Usually take 1-3 people to run
  - Historical reports, forecasting & scheduling
  - Expensive, but save money
- Fewer than 50-100 agents
  - Use erlang-based call traffic & scheduling software
- Quality systems
  - Large scale & small scale
Route / Vector

- A set of rules/steps for routing a call
- Different numbers may have different routes/_vectors
- Different IVR selections may have different routes/_vectors
- Different days of week / times of day may have different routes / vectors
Split, Queue

- **Split**: A group of telephone lines / numbers
- **Queue**: where calls are sent for answering or to hold (queue) until they can be answered.

Some manufacturers use slightly different terminology. For example, some old systems may call a split a “gate,” or a queue a “pilot.”
Skills-based Routing

- **Skill = call type**
  - Phone # or IVR choice
  - Directly or assigned
- **Agents have skills assigned to them**
- **Priorities may be assigned to skills**
- **Skills based routing**
  - Complexity can create problems
  - Enough agents, per shift, per skill?
  - Enough high priority agents, per shift, per skill?
  - Were priorities temporarily modified & not reset?
Key ACD Metrics

- Service level
  - ___% answered in ___ sec
  - E.g.: 80% in 30 seconds
- Abandoned %
- AHT – Average handle time
  - Talk + after call work time
- After call work or wrap-up time
- Occupancy
  - % handle time + % avail time
Cutting the Cord

- Wired headsets
- Wireless headsets
  - When to use
  - Test
- Wireless phones
  - When to use
  - Test
“Cloud”

- What is the cloud?
- Cloud phone systems
  - Disaster recovery
- Cloud software
- Pros & Cons
- When to use
- Issues specific to hospitals
  - Call recordings
  - Security
ADVANCED TECH TOPICS
Speech Recognition

- ASR: Automatic speech recognition
- How works: “Front end” for IVR
- Barge-in capabilities
- Design is extremely important
Voice Analytics

- Word spotting (courtesy of NSA)
  - Select words: unfair, mad, upset, angry
  - Real time use
  - Bleeding edge: emotion spotting
Home Agents

- Cloud systems
- Premise-based systems
- Security & HIPAA
- Sometimes used for:
  - Experienced reps
  - Relocated reps
- Advantage of some time on-site
- 100% home agent challenges
Desktop Applications

- EMR / EHR
- Triage / diagnosis
- Switchboard software
- Marketing databases
  - Prospective patients
  - Physicians directory
- Customer service / help desk
- Social media
- Knowledgebase
- Scripting / front-end software
Integration: Connecting Computers

- **CTI** (computer telephone integration)
  - Connects computers to phone systems
  - Protocols include TSAPI & TAPI
  - Often used for “screen pops”

- **Web Services**
  - Software often used to connect cloud phone and computer systems for CTI

- **API** (application protocol interface)
  - A small program that enables one piece of software to “talk to” other software
Specialized Telephone Co. Services

- **ANI** (automatic number identification)
  - Caller ID on 800/toll-free

- **DNIS** (dialed number identification service)
  - Any line can be for any phone number: signaled by phone co., call-by-call

- **DID** (direct inward dialing)
  - Direct phone numbers for individuals, without requiring a separate line for each one
Customer Contact via Keyboards

- E-mail in contact center
  - Routing, templates
  - Regulatory: CAN-SPAM
- Web-chat
  - Software, routing
- Text messaging - SMS
  - Regulatory: Fed & State
- Unlike calls: there’s a written transcript
Telephone Line Connections

- Multi-site phone systems & CC
- POP: Point of presence
- “The last mile”
- Dark fiber
- Nailed up connection
- Latency
Multichannel ACD

- Multi-channel
  - Voice
  - E-mail
  - Chat
  - Social media
  - Video, etc.

- Queue(s)
Video Visits

- Cutting edge
- Will become more common
- Current state: 1:1 video calls
- Needs staff “rooming patients” etc.
Reliability

- Redundancy
  - Redundant telephone lines, power supplies, etc.
- Hot standby
- RAID
  - 5, 1 (mirrored), etc.
- Reliability projections (or guarantees)
  - Uptime: Five 9s, Four 9s, Three 9s
    - 99.999%, 99.99%, 99.9% uptime
  - MTBF: Mean time between failures (in hours)
TCO: Total cost of ownership
- Purchase/lease cost
- Vendor support cost for useful life
- Internal support cost for useful life
ASKING FOR ASSISTANCE:

HOW TO TALK TO I.T. AND OTHERS
IT & TELECOM

- Build a relationship
- Ask questions and advice
- Develop a partnership
  - They are a tech expert
  - You are an ops expert
Sales People

- Ask what’s available
  - They are experts on their products’ advantages
- Ask where else it works / solves a problem
- Ask how it works
- They have a vested interest
  - One can learn a lot from them
Seven Due Diligence Questions You Must Get Answered...Clearly

1. How does that improve day-to-day operations?
2. How does that improve PAC/CC results?
3. Where have these outcomes and results been experienced, in similar PAC/CC environments?
4. In what situations are these outcomes not experienced – when does it not work?
5. Could you please repeat that (more slowly)?
6. Could you please repeat/explain that in plain English?
7. Do you have anything that _____
Selling Technology to Management

- Business case
- ROI: return on investment
- Payback period
  - Lease vs. buy vs. cloud
- Productivity
- Patient experience
- Patient relationships
- Impact on brand
- What other hospitals are doing
We need two teams for...

A GAME OF ALPHABET SOUP...
Leveraging Technology to

IMPROVE PATIENT ACCESS
Strategic & Tactical Uses of Technology

- **Strategic**
  - Transform nature of patient communications
  - Enhance brand
  - Consolidate contact centers virtually
  - Provide essential, new management data

- **Tactical**
  - Better manage patient calls
  - Better manage staff
Using Technology to Boost Productivity

- **ACD**
  - Overflow
  - Larger CC: screen pops (CTI)
  - IVR/Voice rec to direct call
  - Reports: e.g., occupancy
  - Home agents for fringe shifts & overflow

- **Desktop software**
  - Knowledgebase (speed of access/updating)

- **Workforce management**
  - Better scheduling to call volume
Using Technology to Improve Quality

- Call monitoring – live (+ allocate time to do it)
- Call recording (+use it in coaching)
- Desktop software
  - Triage software (accuracy)
  - Knowledgebase (accuracy of information)
- Various technologies shorten calls for patients, improving quality of interactions for them
PAC: Enabling Technology

- **Telephony:** ACD, IVR, dialer (outbound)
- **Management:** WFM, ACD reports
- **Accurate Info:** Knowledgebase, triage software, EMR, scripting software, switchboard software
- **Quality:** Call monitoring, call recording, quality scorecards
Looking for potential benefits and potential issues

UPGRADES & ADD-ONS
Upgrades & Add-Ons

- **Potential Benefits**
  - Productivity
  - Quality
  - Management

- **Potential Issues**
  - Track record
  - Usability
  - Training
  - Management time
  - Operations, installation, debugging
Effective use in your call center requires properly configuring technology.
Configuring Technology

- Case: Malfunctioning CC phone system
- Configuration of functions & features
  - Call routing and skills-based-routing: changes can have a dramatic impact
- Functions & features that are options
- Third party add-ons
THANK YOU
QUESTION & ANSWER