



CUSTOMER INTERACTION SOLUTIONS

Spanlink delivers REAL
Customer Interaction Solutions
that transform the way
companies do business.

REAL

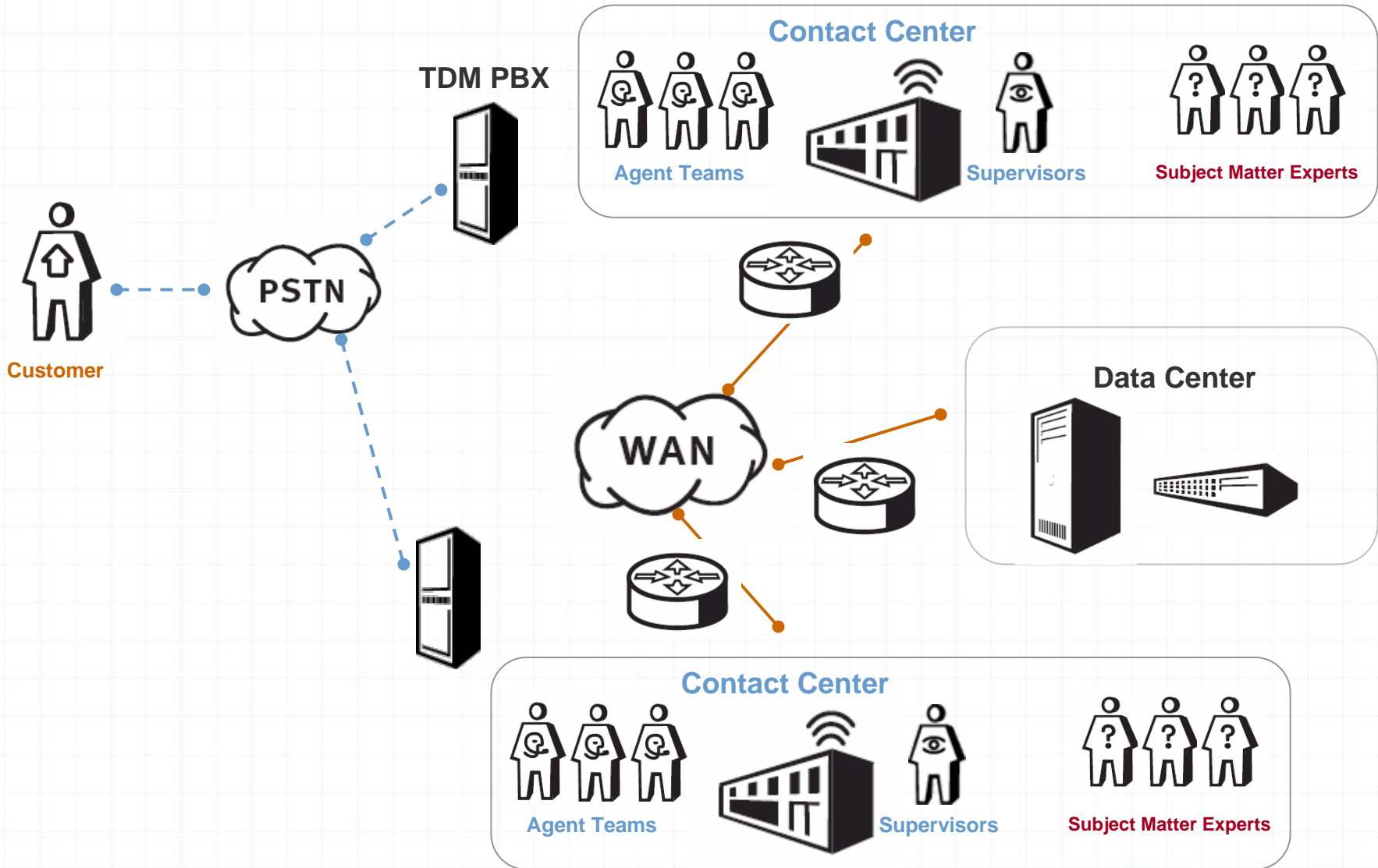
Next-Generation Contact Centers
Jon Silverman, CTO
VoiceCon Fall '06



VoIP Allows New Contact Center Services And Architectures

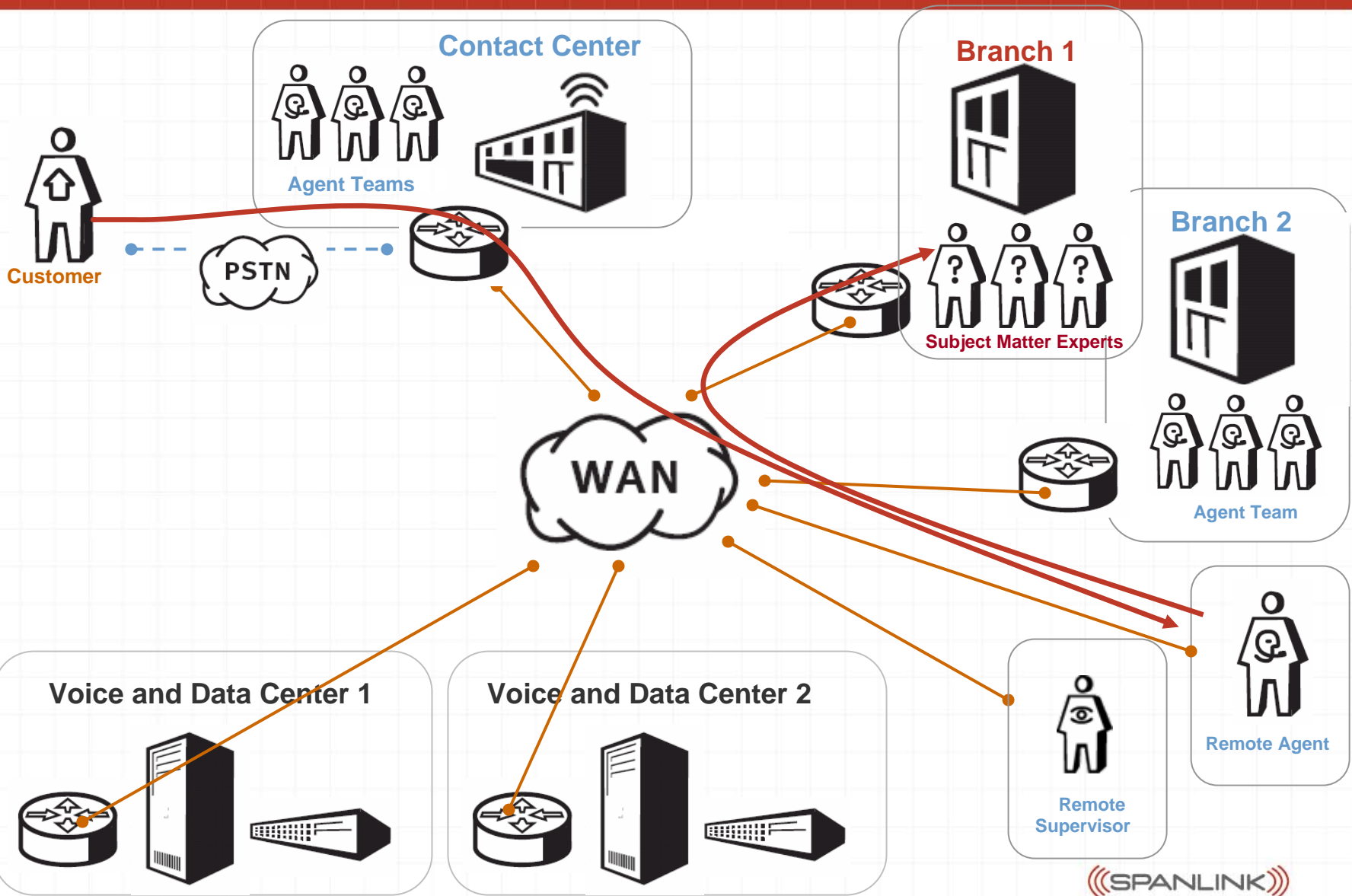
- ◀ Removes physical boundaries for placement of equipment and personnel
- ◀ Allows virtual teams with supervisor in one locale and agents in multiple locales
- ◀ Facilitates new architectures based on distributed systems

Legacy Communications Organization



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Customer Interaction Goes Virtual



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Virtual Team Coordination and Communication

< Distribute teams geographically

- Supervisor in one locale with agents in multiple locales
- Monitoring and coaching agents
- Collaboration on customer contacts

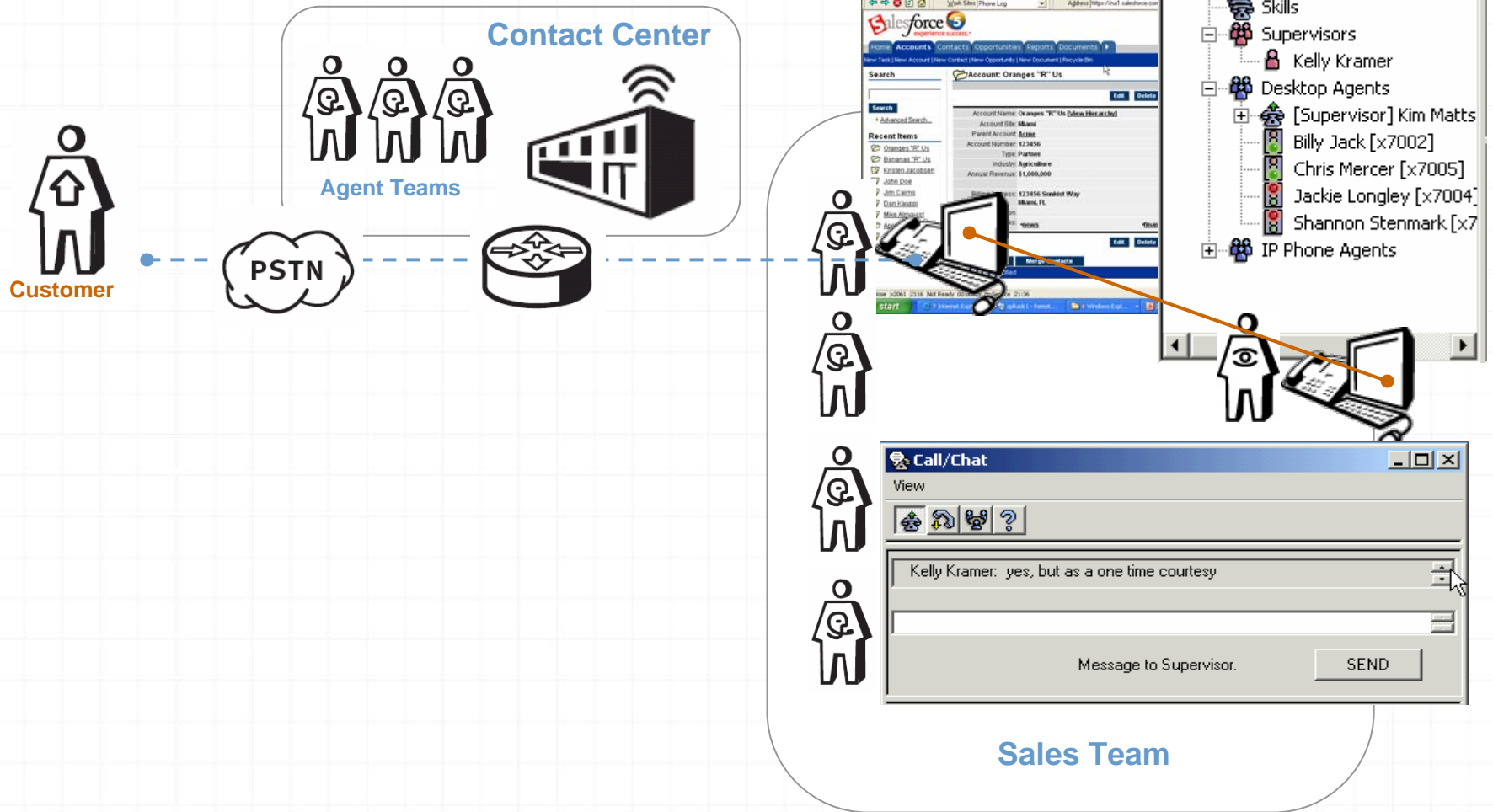
< Extend team to knowledge workers into contact center

- Knowledge workers
 - Subject matter experts on sales and support
 - Primary job is not an agent
- How to represent knowledge workers to agents
 - Leverage presence management concepts

< Obtaining consistent, accurate customer service

- Multiple media channels
- High agent turnover

Presence-Based Chat – Agent to Supervisor



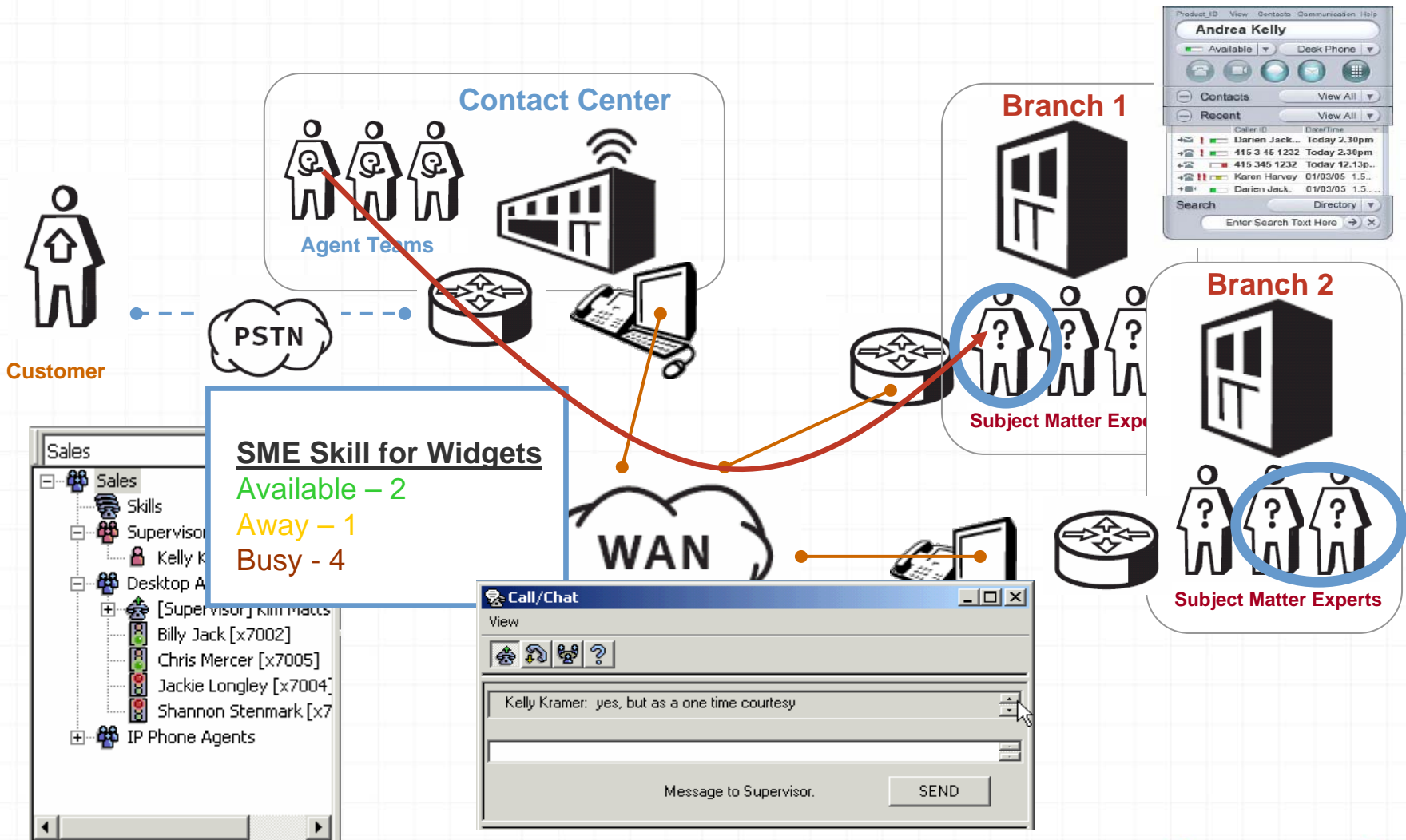
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Team Coordination and Communication

< Supervisor Needs:

- Real time display of all agent contacts including contact context -- KPIs
- Remotely run agent desktop using contact context to follow agent activity
- Monitoring and coaching agents by:
 - Silent monitoring - voice
 - Capturing screen activity (click stream, screen shots)
 - Chatting on contact management
 - Pushing pages of useful information
- Collaborating on customer contacts by:
 - Combination chat and voice conference
 - Pushing pages to agent
 - Common whiteboard

Integrating Employees Outside The Contact Center



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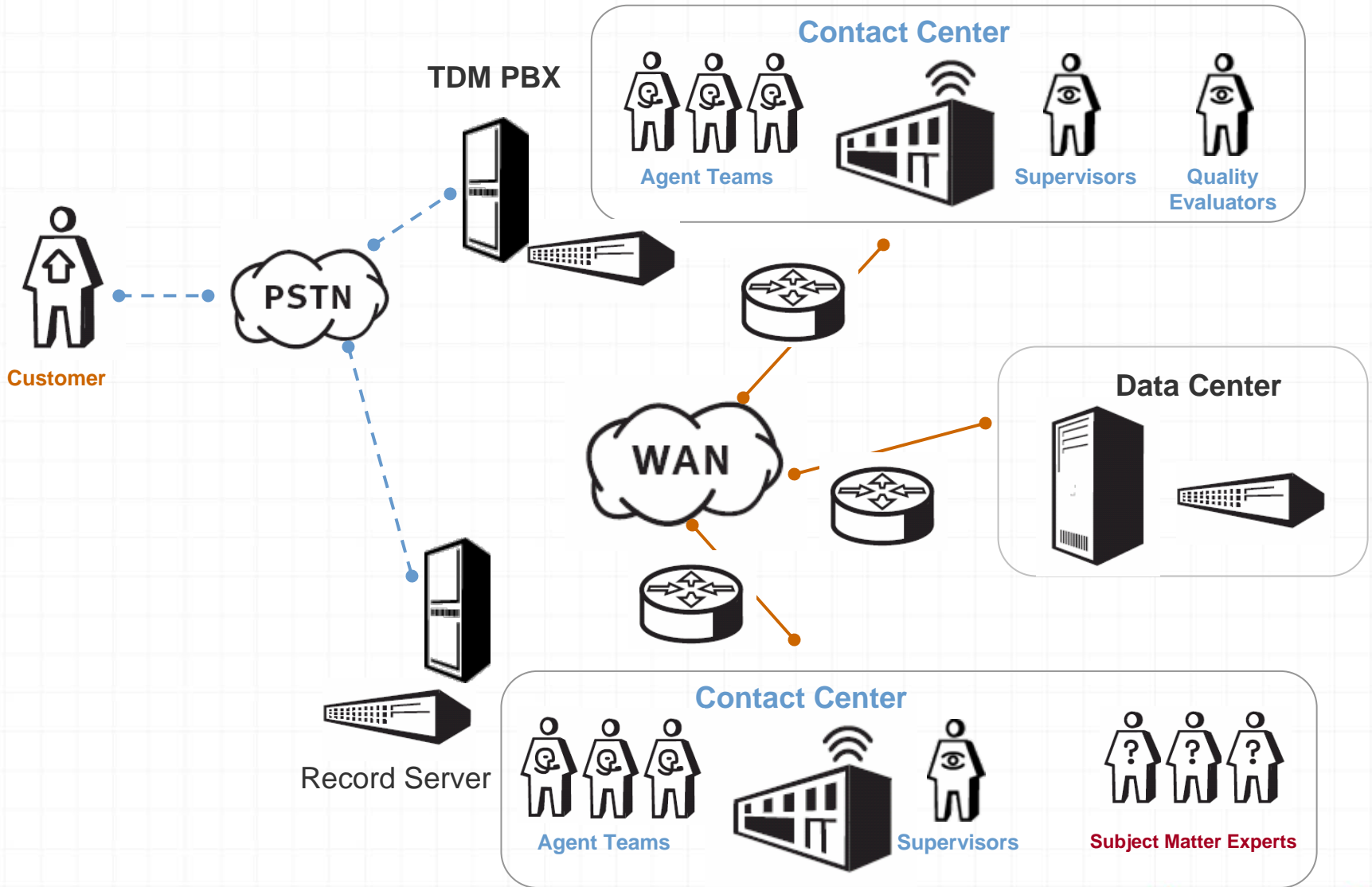
Subject Matter Expert Technical Considerations

- ⟨ SMEs not logged into ACD as agents
- ⟨ Presence represented as skills and competency levels
 - ACD skills or different
 - Federated presence databases
- ⟨ Access to skills based on organizational structure
- ⟨ SMEs appear to contact center agents as staffed skills and not as individuals
 - Different SLAs
 - Contact center not SMEs 1st job
- ⟨ Setting up IM session requests may include
 - Value add routing algorithm
 - User defined rules interpreter
- ⟨ May use any IM tool for communication

Recording in Distributed, VoIP Network

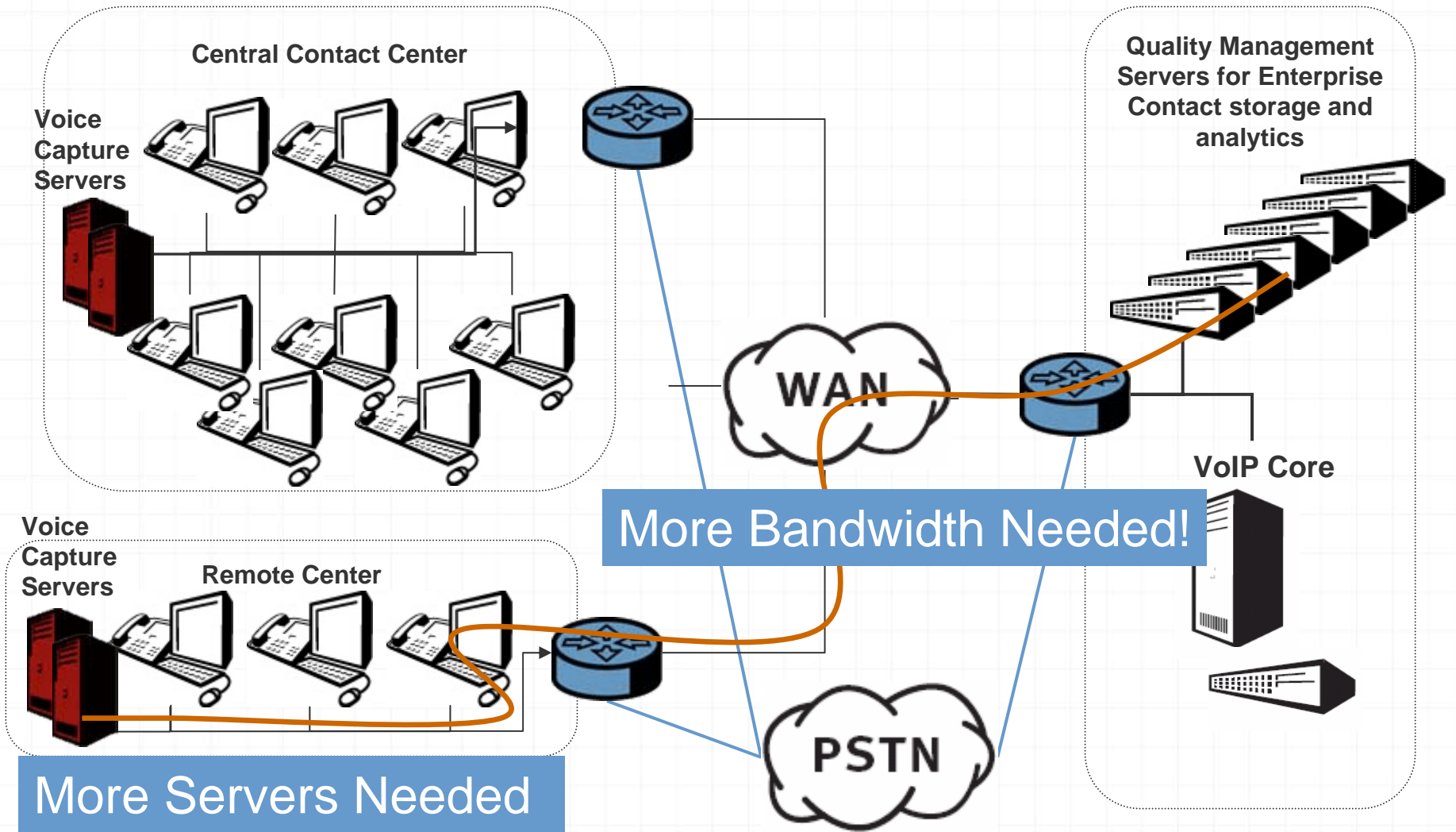
- ◀ Limitations of using legacy TDM architecture
- ◀ Move intelligence to network edge
- ◀ Minimize servers for capturing media
- ◀ Leverage processing where signaling and media terminates

Legacy Contact Center Recording Organization

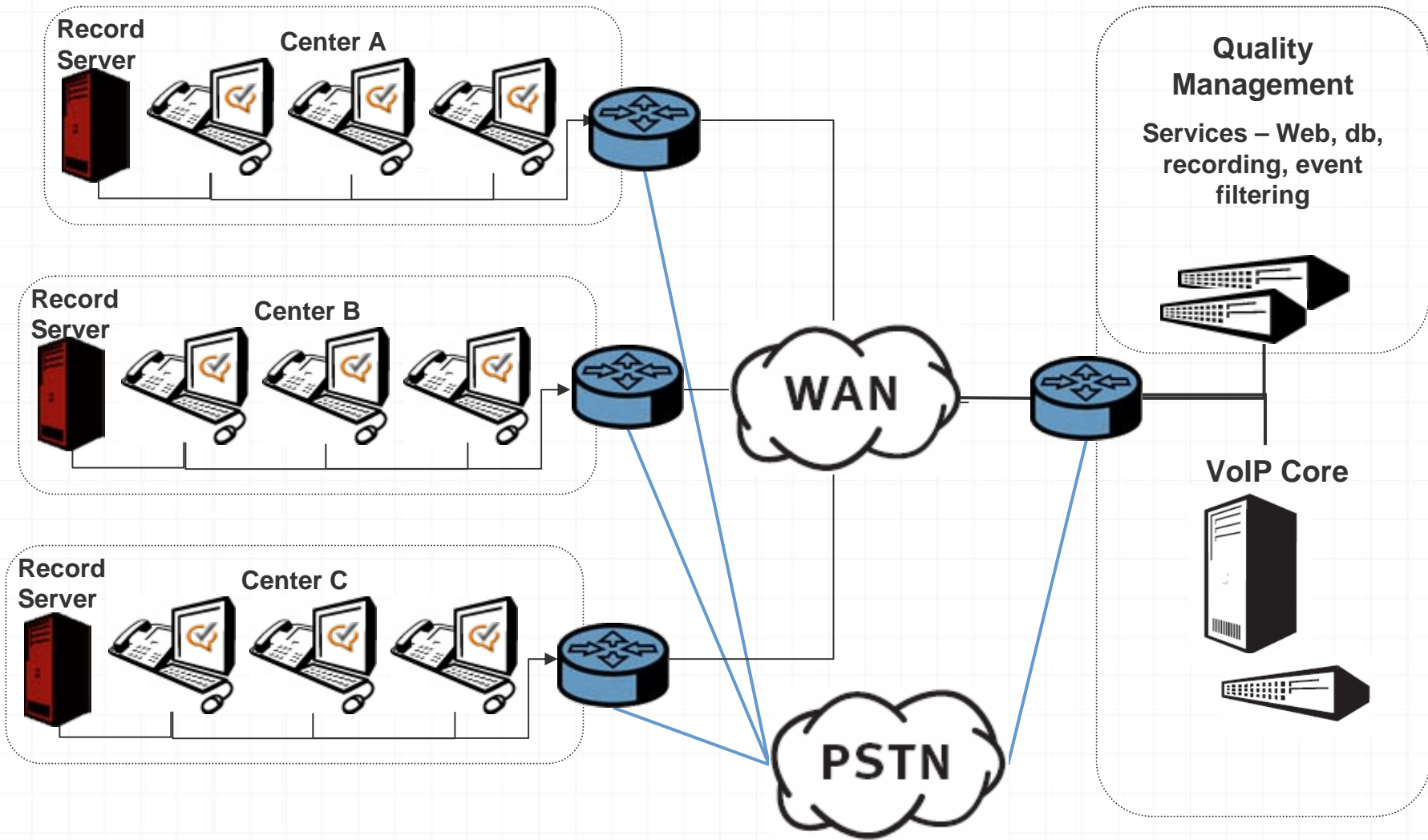


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Traditional IP Multi Site Quality Monitoring Architectures



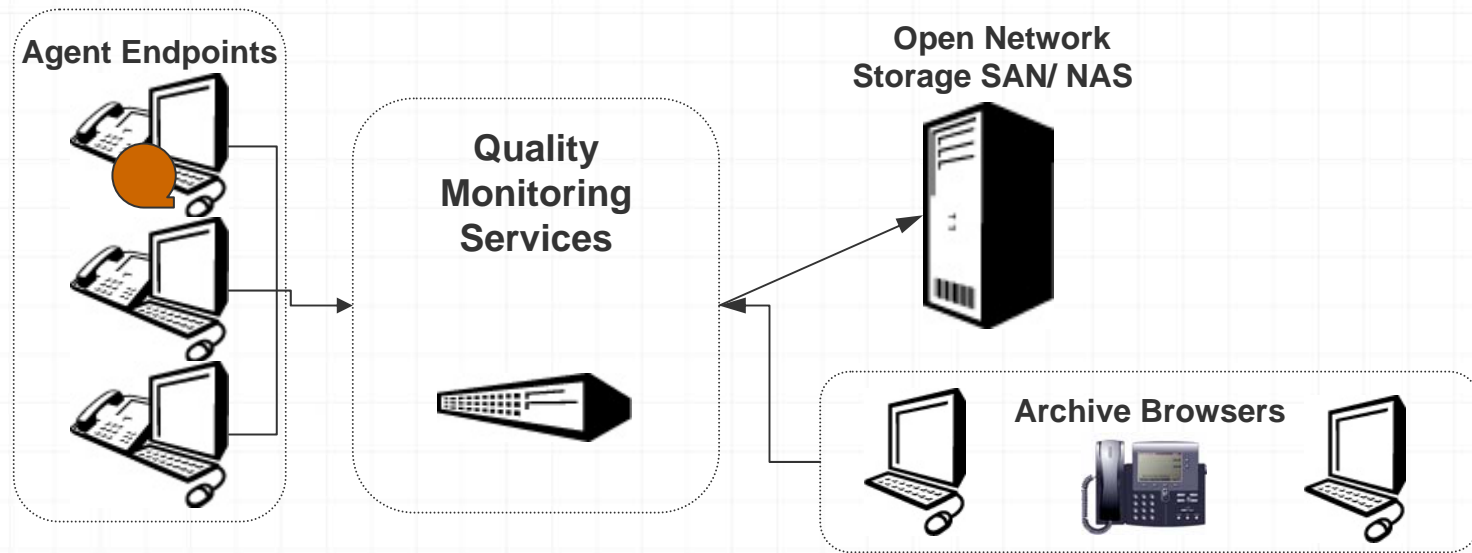
Distributing Intelligence to Architecture Edge



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Storage Flow Diagram

- 1) Capture /process contact locally at endpoint
- 2) Upload selected/compressed contacts to QM Servers via policy
- 3) QM Server storage can be local or SAN volume, NAS Share
- 4) Retrieve archived contacts via browser or phone



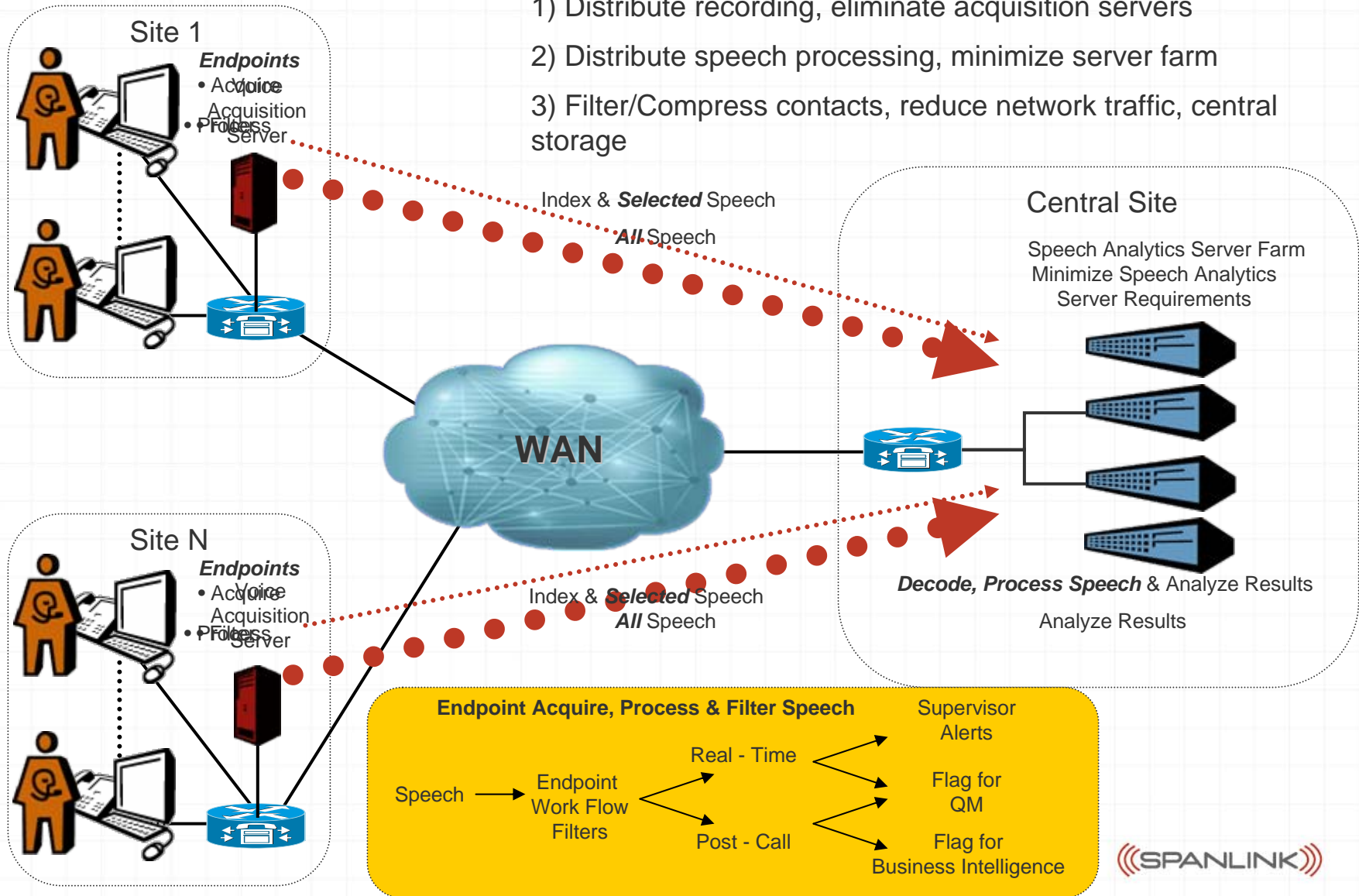
Speech Processing Requirements

- ◀ Analyze speech to
 - Automate identification of contacts of interest for quality management
 - Mine contacts to identify business trends
- ◀ Assumptions
 - 8 seconds speech requires 1 second CPU time
 - Agent talk time is 50%

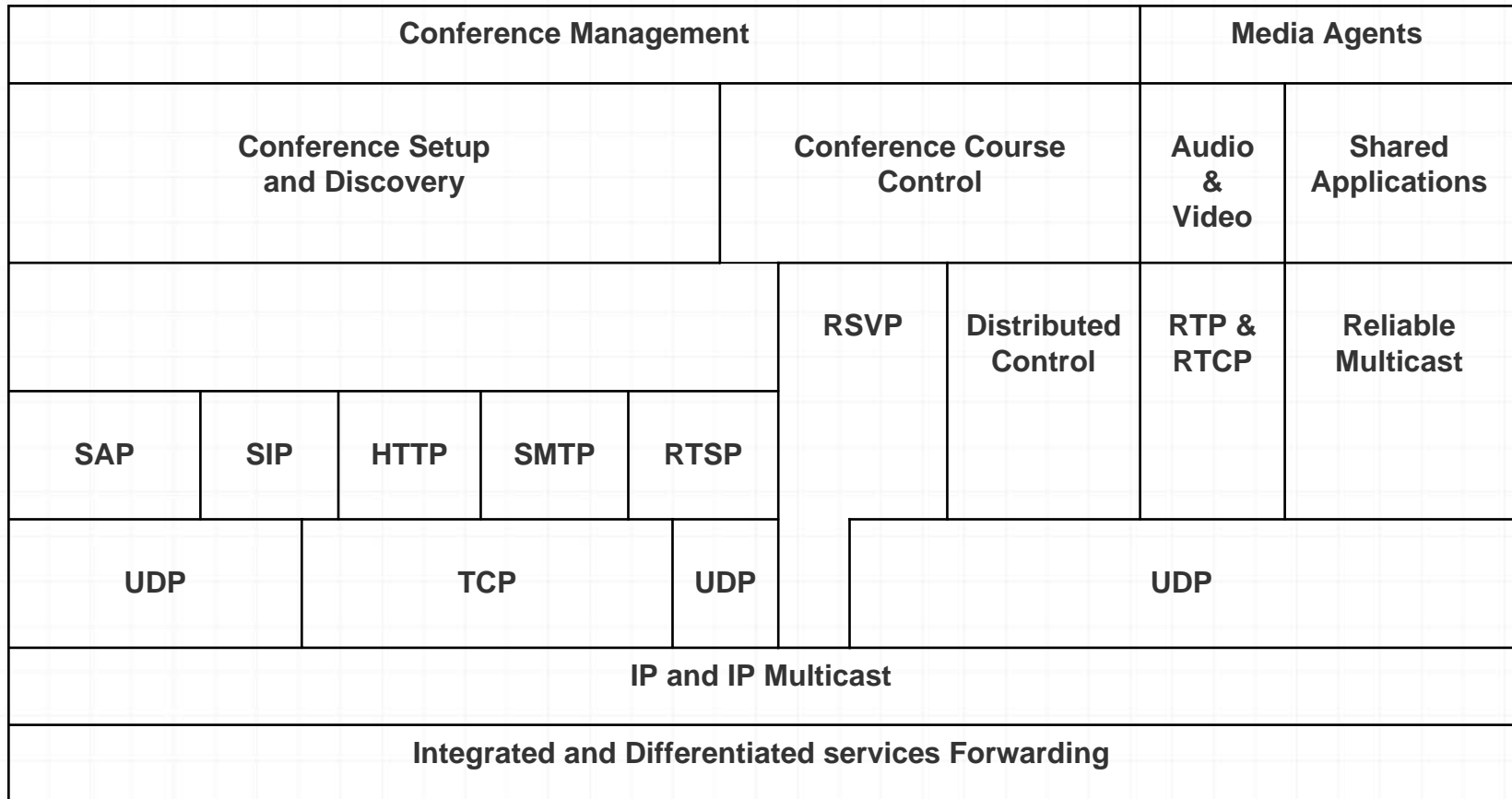
Number Servers	Call Center Hours	Number Agents
1	8	48
1	24	16
5.2	8	250
15.6	24	250
10.4	8	500
31.25	24	500

Distributed Architecture for Speech Analytics

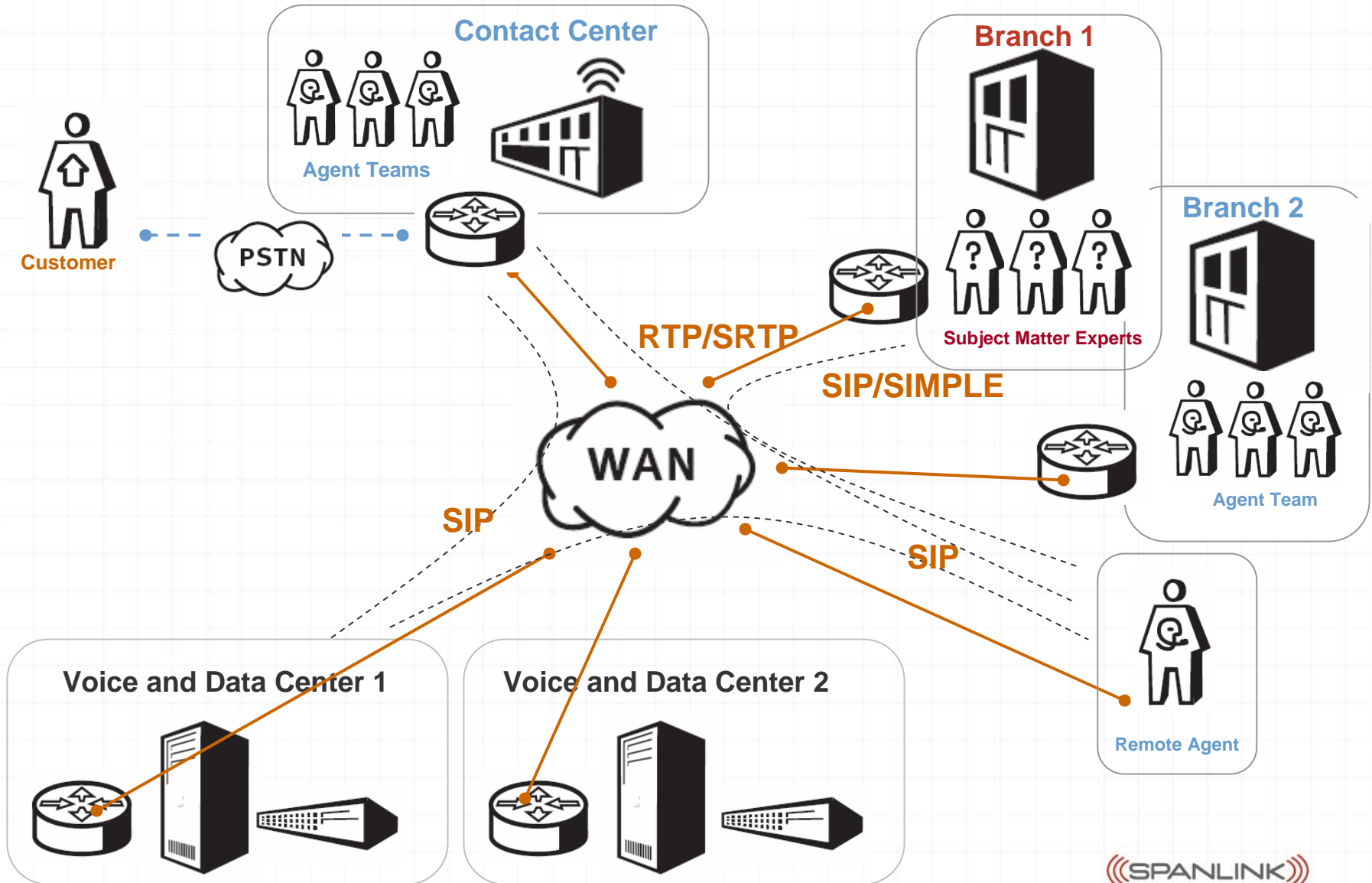
- 1) Distribute recording, eliminate acquisition servers
- 2) Distribute speech processing, minimize server farm
- 3) Filter/Compress contacts, reduce network traffic, central storage



Internet Multimedia Conferencing Architecture



Protocols For Virtual Contact Center



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Summary

< VoIP, Presence and Team Collaboration

- Supervisory tools for managing virtual team
- Agent collaboration tools for handling contacts
- HR benefits of “agents anywhere” without sacrificing teaming, training and quality control
- Integrate knowledge workers with contact center

< Move Recording to Edge

- No servers distributed throughout network for media capture
- Lowers server requirements at the voice/data center for post processing
- Capture / enable more sophisticated user interactions
- Reduces network load