



SIPeerior
Technologies

A superior way to connect

P2P

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What is Peer-to-Peer?

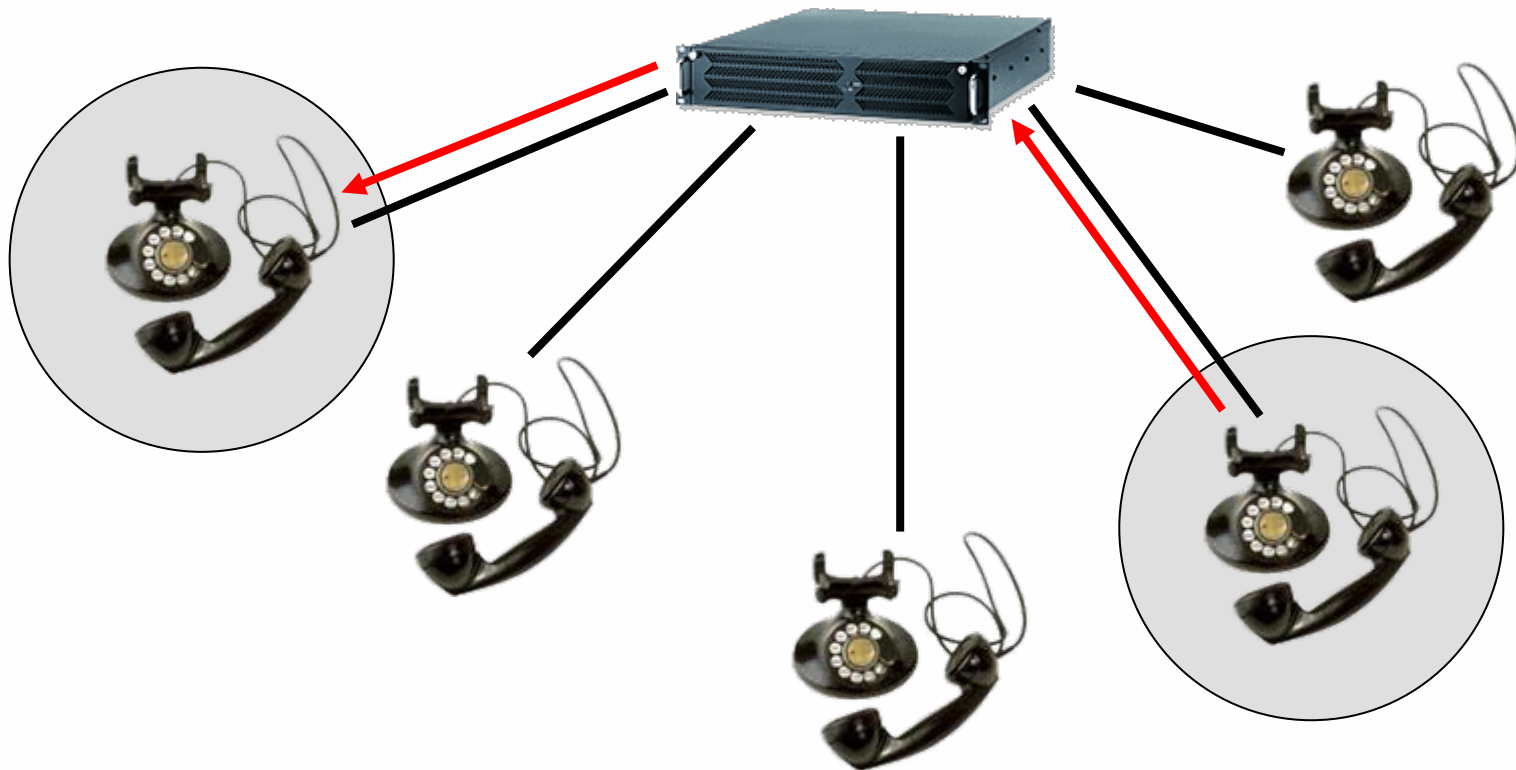


- Peer-to-Peer (P2P) technology
 - Fundamentally different than client server
 - Nodes cooperate to provide (collectively) the functionality a central server would provide
 - Not all nodes provide all services/know everything, but as a group they do
 - Central servers – and the configuration that goes with them – are unnecessary
- Most P2P VoIP products try to replace lookup/user location, media relay, and/or voicemail, with smarts in the phone

Client/Server Session



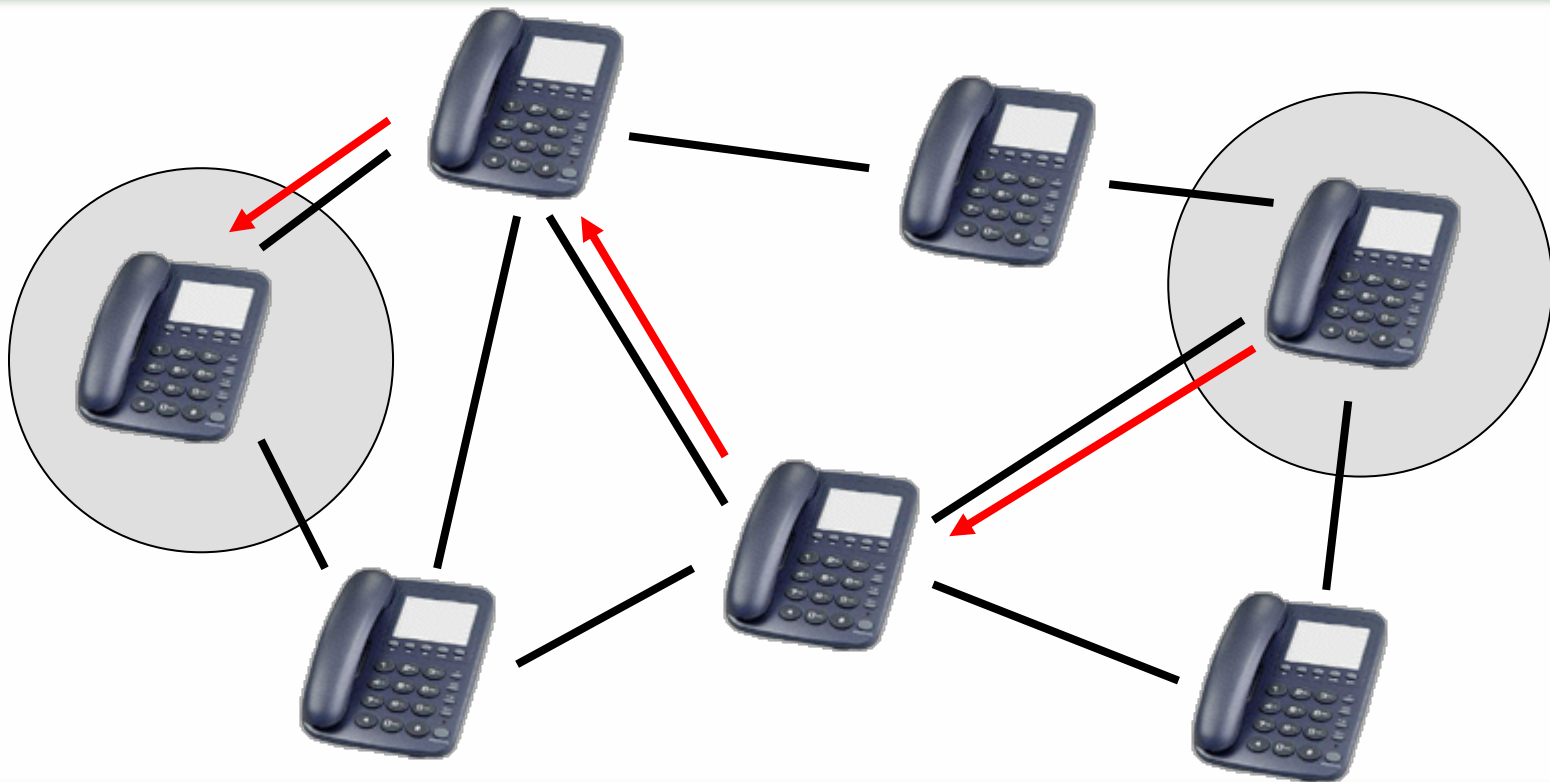
In a Client/Server session, two nodes must use a central server to communicate



P2P Session



In a Peer-to-Peer session, when two nodes communicate, a few other nodes, rather than a central server, help complete the call



Is P2P for VoIP a niche?



- Will vendors offer large scale P2P products?

Is P2P for VoIP a niche?



- The initial area of deployment looks to be small office PBXs
 - Underserved market
 - This market plays to P2Ps strengths
 - Ease of configuration/setup
 - Low cost (few or no servers)
 - Scalability is important, and P2P phones bring more processing capacity with each new phone
- Question is...will vendors go bigger?

Which Products Will Be P2P?



- Some vendors will likely *not* offer large scale IP PBX P2P solutions
 - Seems to be a “protect the product line strategy”
 - P2P is inherently scalable, so no technical reason not to offer such a product
 - Skype, P2P file sharing, scale to enormous sizes
 - Some services may be better centralized, some customers may prefer centralized server
 - PBXs aren’t going to disappear!
- Handset vendors may push scalable P2P PBX replacement solution
 - For these vendors, opportunity to steal market share from PBX vendors (phone as a complete solution)

What about P2P security?



- Will applications like Skype or other P2P present a security risk?
- What to do about it?

What about P2P security?



- Really two cases for the enterprise phone market with very different security implications:
 - PBX replacements
 - These can be made as secure as traditional IP PBXs, since they too are in house or hosted
 - Global Internet (Skype-like) Services
 - May be some risk, particularly since Skype is closed and difficult to monitor
 - Less risky as standards develop and more transparency develops
 - Issue of random nodes relaying media
 - Encryption prevents risk, but still uses bandwidth
 - Who do you want your employees talking to and how much monitoring do you want to do?
 - Risk seems similar to using commercial IM clients

How do you plan for P2P?



- How do you plan, provision and architect for your network in the presence of P2P software?

How do you plan for P2P?



- Again, differs for enterprise solution or Skype-like solution
- For enterprise P2P PBX replacement
 - Scale easily, so less need to size servers for seats
 - Administrators still control access, but provisioning is easier, some may be pushed to user
 - Monitoring and planning network bandwidth is still important, can use same tools as Client-Server
- For Skype-like solutions, not quite as clear
 - Administration and control is out of hands of admin (bit on the plus side, doesn't need them)
 - Bandwidth needs are difficult to assess, since traffic may be relayed by users machines

So why use P2P for VoIP?



- Why choose P2P, rather than a centralized approach?

So why use P2P for VoIP?



- Simplified configuration
- Lower CapEx, OpEx (for server admin)
- Scalability
- No single point of failure
- Adding and interconnecting branches is simplified
 - Mergers of existing systems *should* be vastly easier...in the future once a standard emerges
- Much easier for small office deployments than traditional server based approaches