

VoIP – Survivor's Guide

Can you really save \$, improve operations, AND achieve greater security and availability?



Presented by Peggy Gritt, Founder and CEO of the VoIP Institute, Inc.
A non-biased organization for the advancement of VoIP technology among users

- Convergence at last...



First data phone...

VoIP – Survivor Guide

- High Start Up Costs
- Vendor Lock-in Yet Again
- Disasters and Crashes
- Hackers
- Unruly users

Quick Definition of Voice Over IP

- Voice traveling on a data network. The voice has been digitized and “packetized” to travel on an IP network. IP means “Internet Protocol”

Red



Traditional voice only circuit – dedicated “line” with fixed number of call(s)

Blue



VoIP uses a data connection and shares connection with other data types

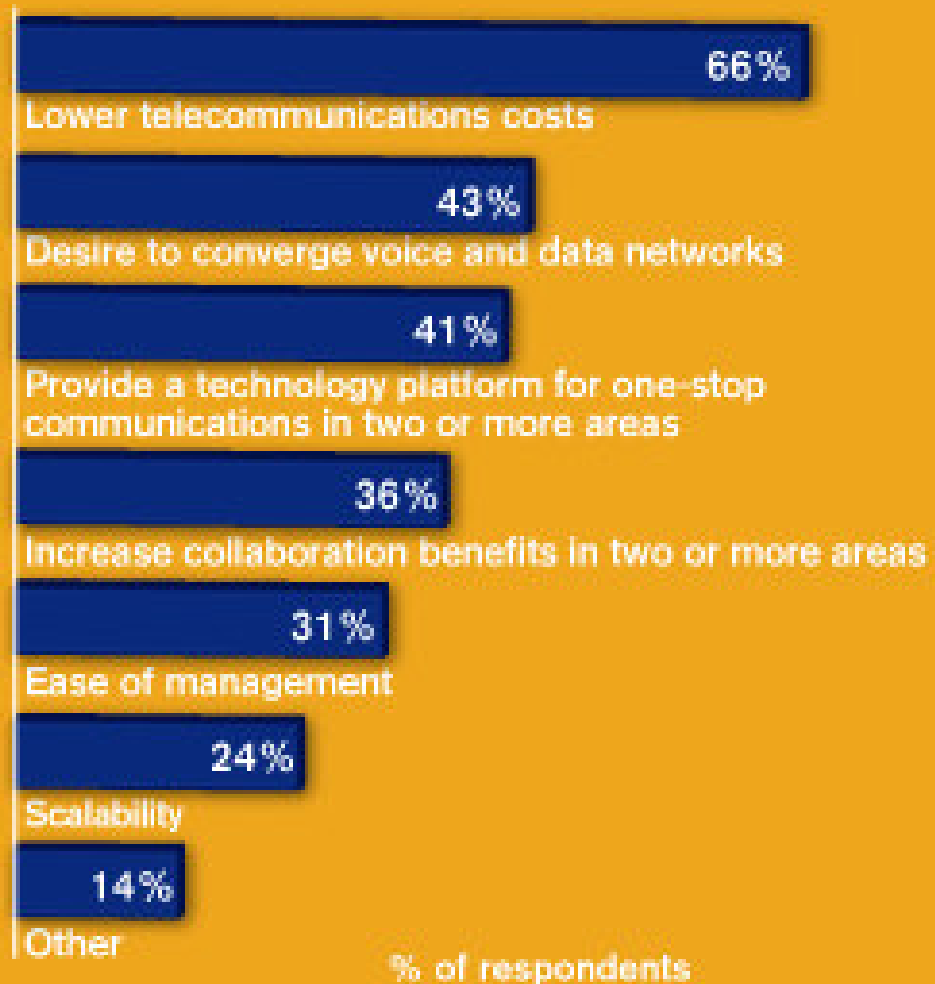
Survivor Guide: High Start Up Costs

Can you really save \$ in the first
year when moving to VoIP?

Why VoIP?

Let's Save Money

What are the primary reasons your company is implementing VoIP?



Note: Multiple responses allowed.

Note: 280 companies currently using or planning to use VoIP

Data: InformationWeek Research VoIP study of 320 business technology professionals

Source: Information Week, Five things you need to know about VoIP

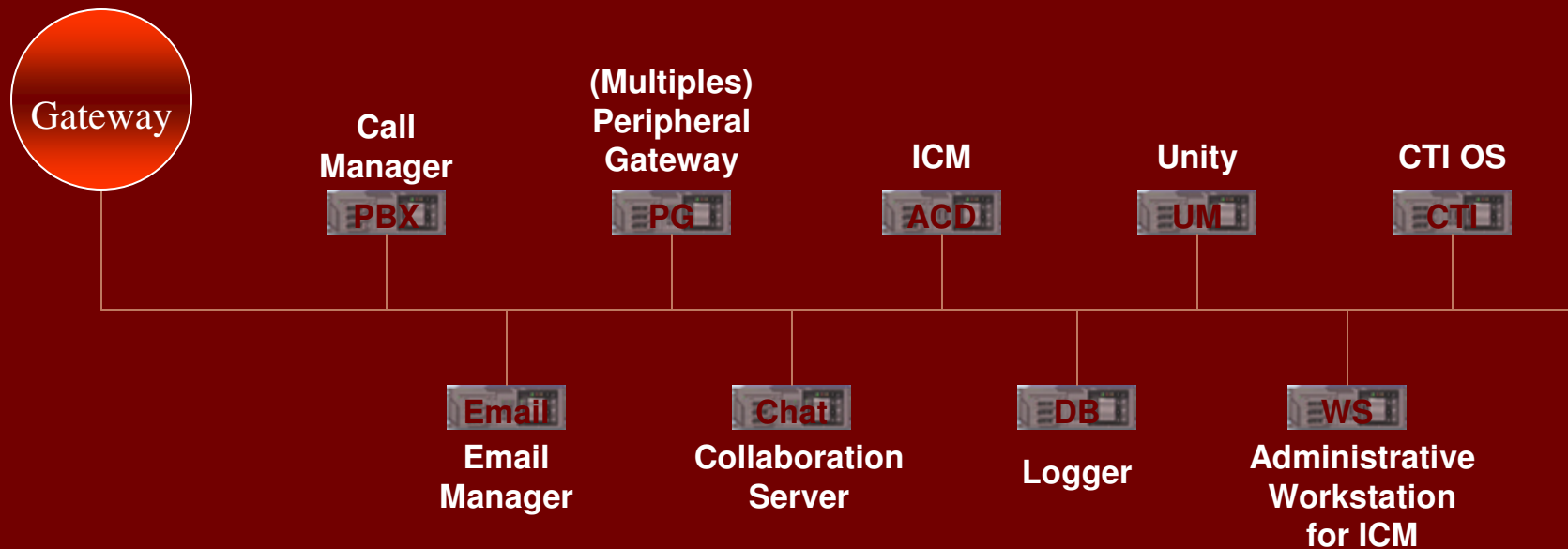
<http://www.informationweek.com/news/showArticle.jhtml?articleID=189800103&pgno=4&queryText=>

February 1, 2007

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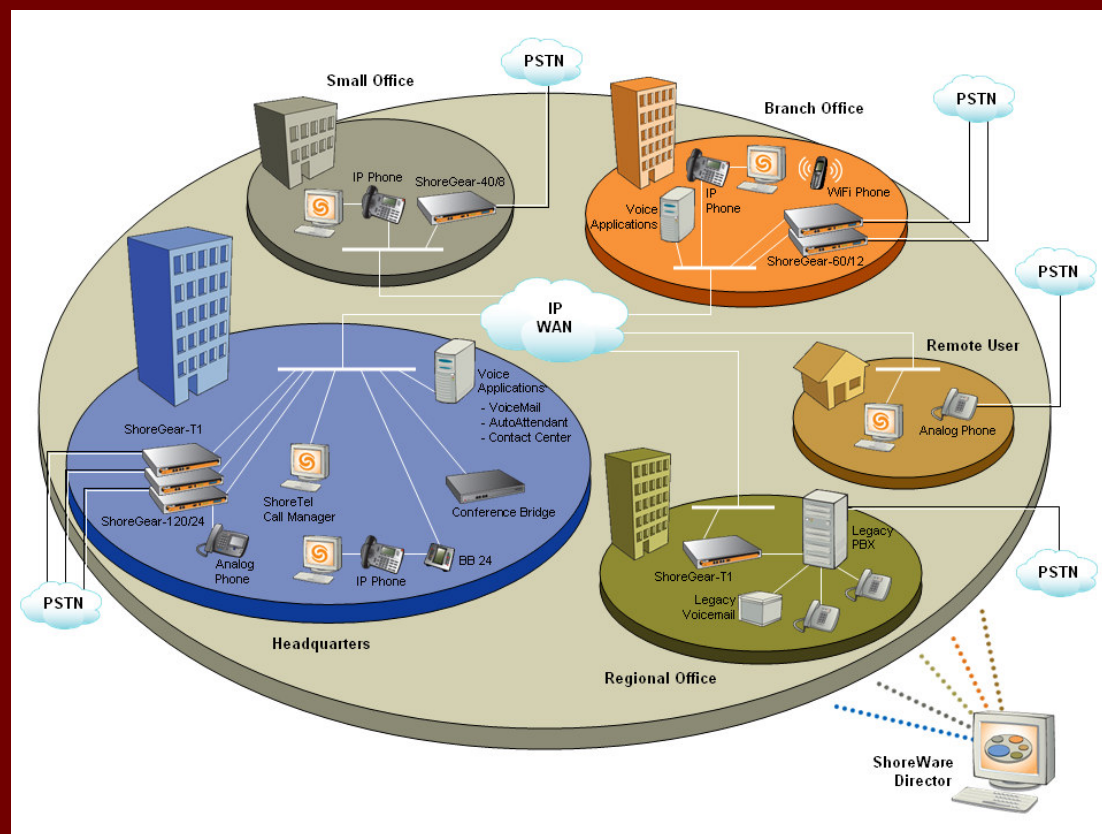
Cisco model – Callmanager + Application servers

Cost Savings: Network Consolidation



IP PBX model – looks like a phone system

■ Shoretel example...



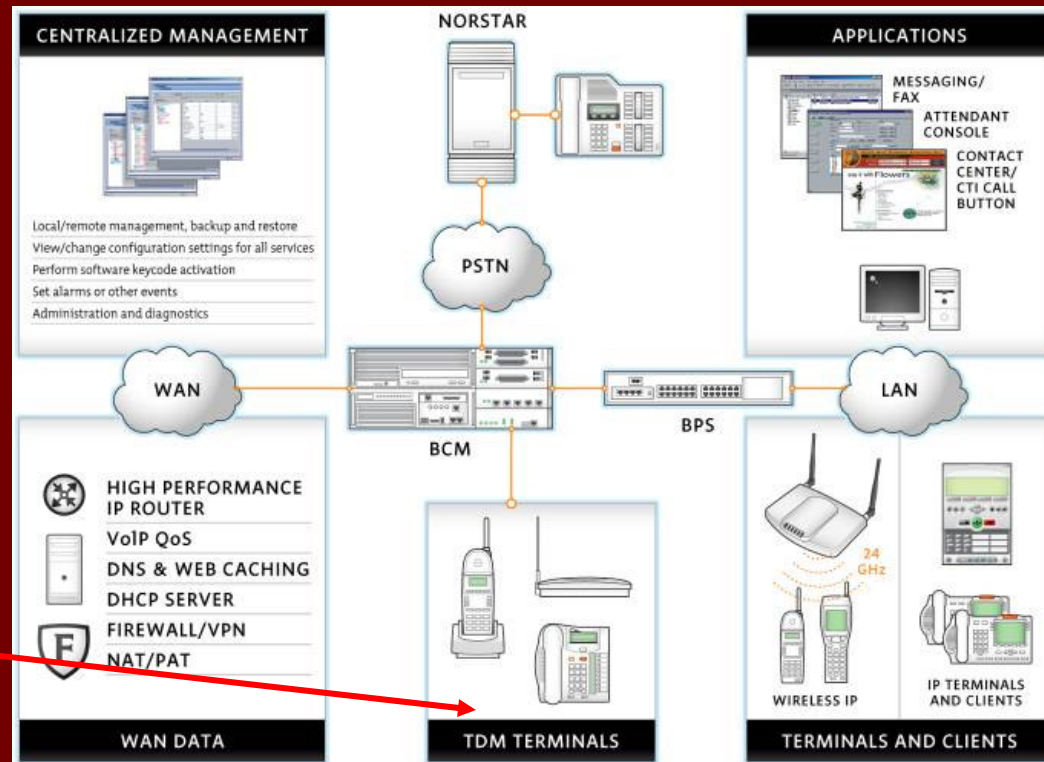
Cost Savings: Distributed Installation and Admin

Hybrid approach – traditional phone system with VoIP “cards”

■ Nortel example



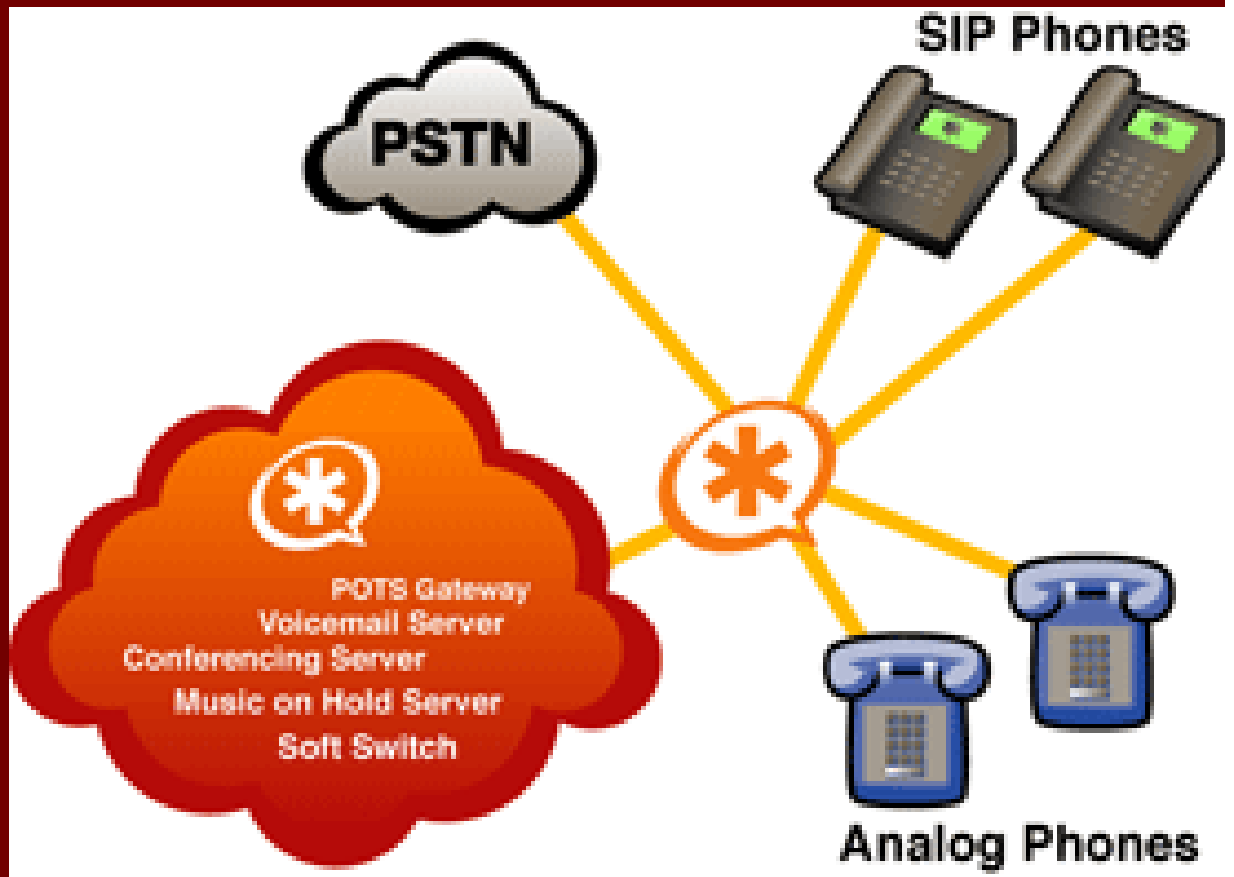
Still supports traditional digital telephone sets



Cost Savings: Desktop Equipment and Training

Where Asterisk – Open source fits...

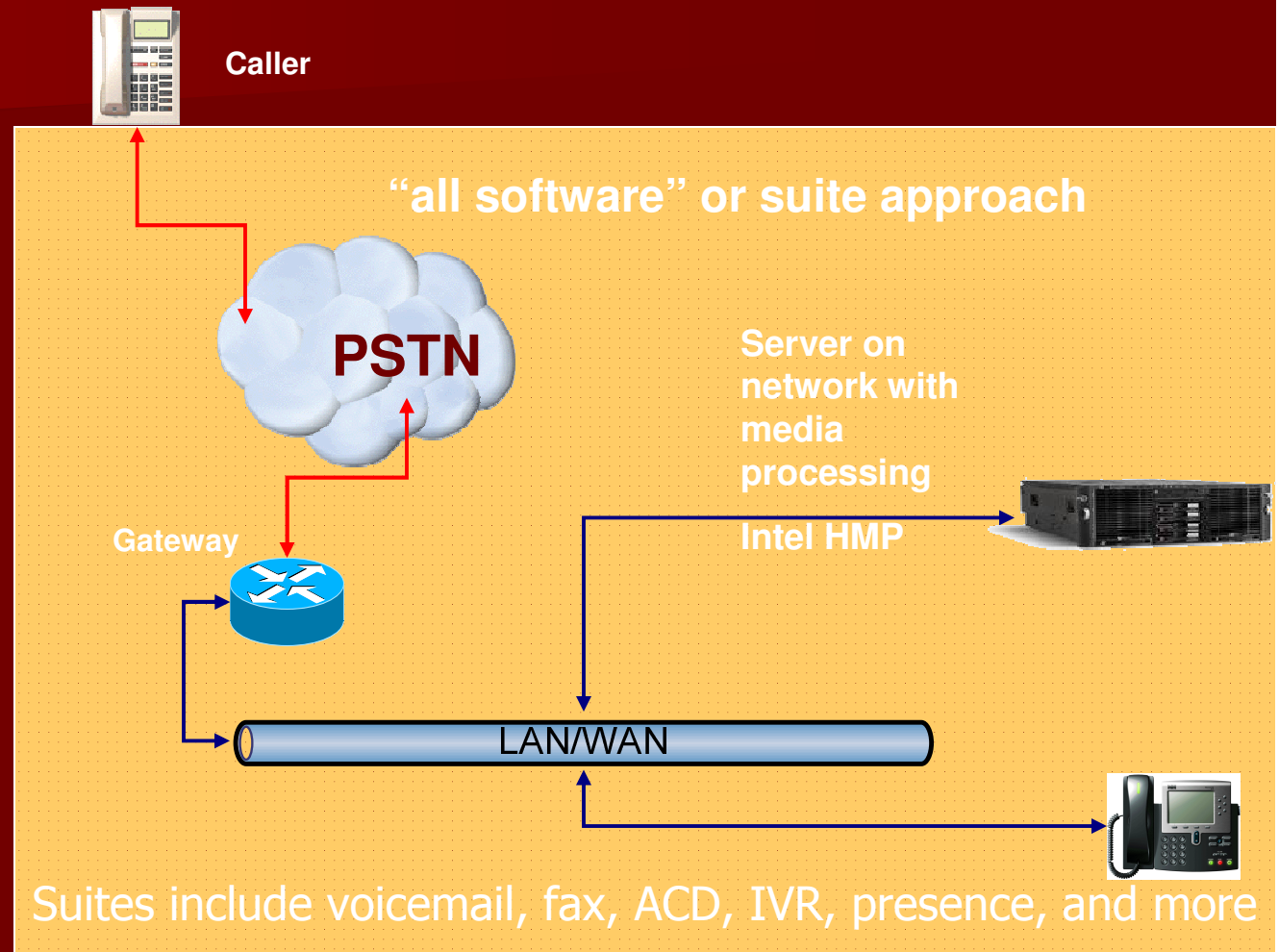
Digium provides paid support options, certifies hardware configurations, creates packages and training and certification programs



Cost Savings: Software Licensing, Hardware

Software-based phone system – suite approach

- No proprietary hardware to maintain
- Many business applications included
- Standard network OS

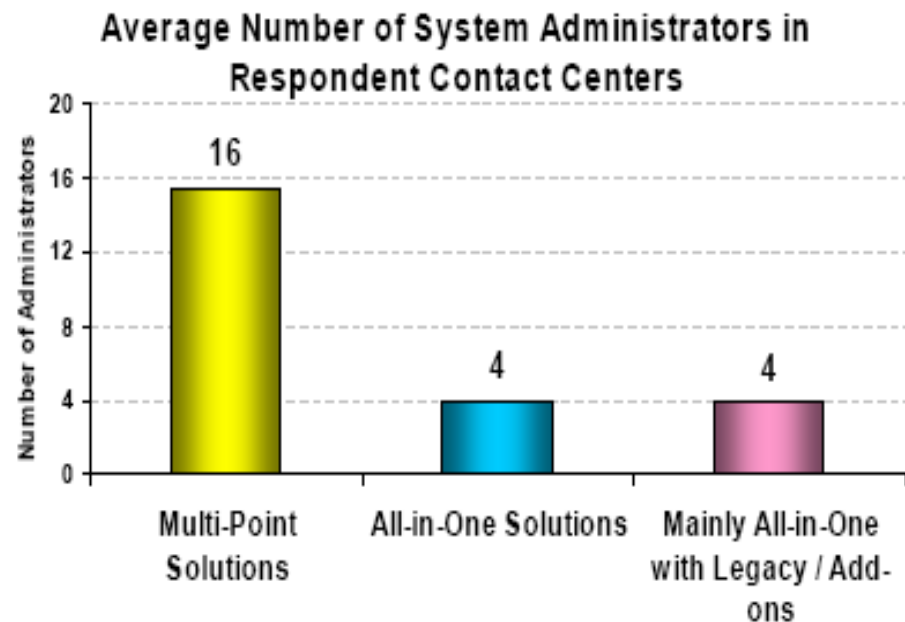


**Cost Savings: Systems, Devices,
Administration, Integration**

Contact Center Savings – Software Approach

Consolidating systems and servers with a software suite approach can save as much as \$1.2 million per year

Moving from 12 or more administrators to 4 or so system administrators



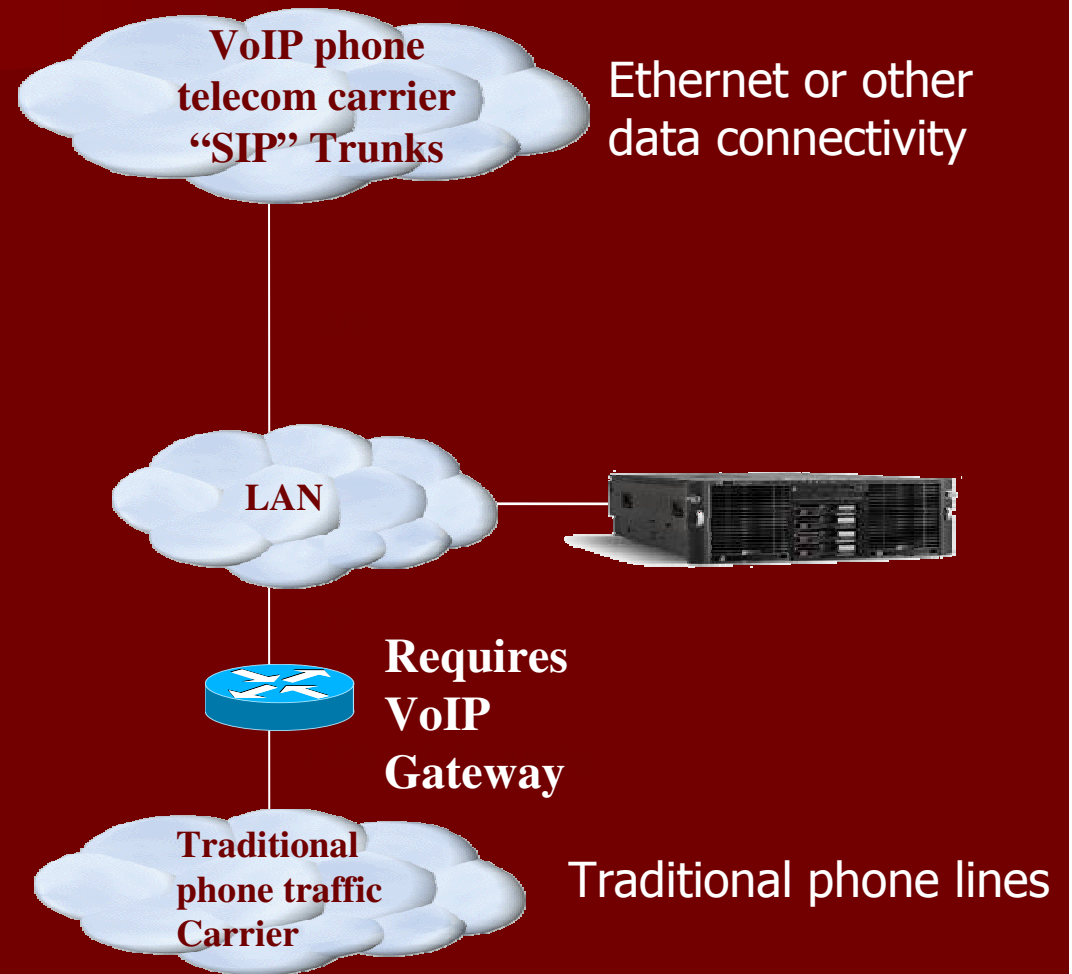
The cost associated with this delta is substantial, and could be estimated as follows:

Typical annual cost of a systems administrator (salary + benefits):	\$ 104,000
Difference in number of administrators:	12
Added average cost associated with multi-point centers:	\$ 1,248,000

Put another way, a typical annual budget for a 278-agent center would be around \$15 to 20 million. Thus the delta here could represent a savings of over 5% of budget.

VoIP Providers

Eliminates equipment at site
Eliminates management of security issues of gateways
Purchase of bandwidth and simultaneous calls – more calls per physical connection to carrier
Some carriers carry data and voice



Cost Savings: 40-50% Traffic, Disaster Recovery

Survivor Guide: Vendor Lock-In


Avoid Vendor Lock-In By Adopting
Standards

Protocols – you need to know them!

- VoIP signalling protocols are changing rapidly – moving to open standard: SIP

Traditional voice only circuit – dedicated “line” with fixed number of call(s)

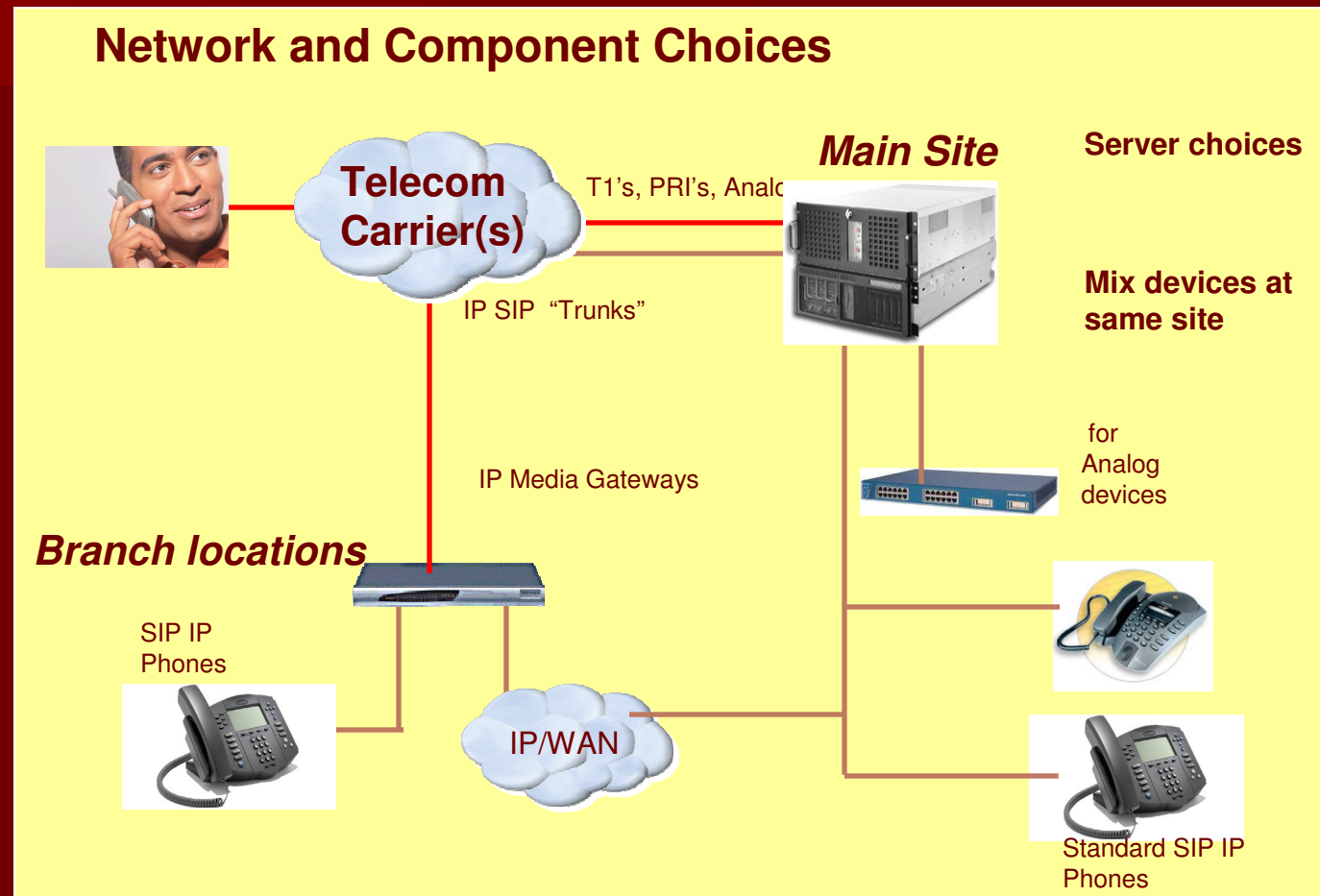
The protocol handles the messages for signalling such as: There is a phone call, it is FROM This number (ANI), it is TO this number, etc.



VoIP uses a data connection and shares connection with other data types

SIP Standard

- Lower cost for devices and systems
- Greater choices for users
- Interoperability of applications from different manufacturers



Cost Savings: Removes middleware – adopted by all major manufacturers and carriers, lower device cost

Survivor Guide: Disasters and Crashes

Why your traditional telecom
solution may fail you!

What's behind this?

- Remember when the mainframe folks said mainframes were more reliable than PC's



Metro outage planning importance

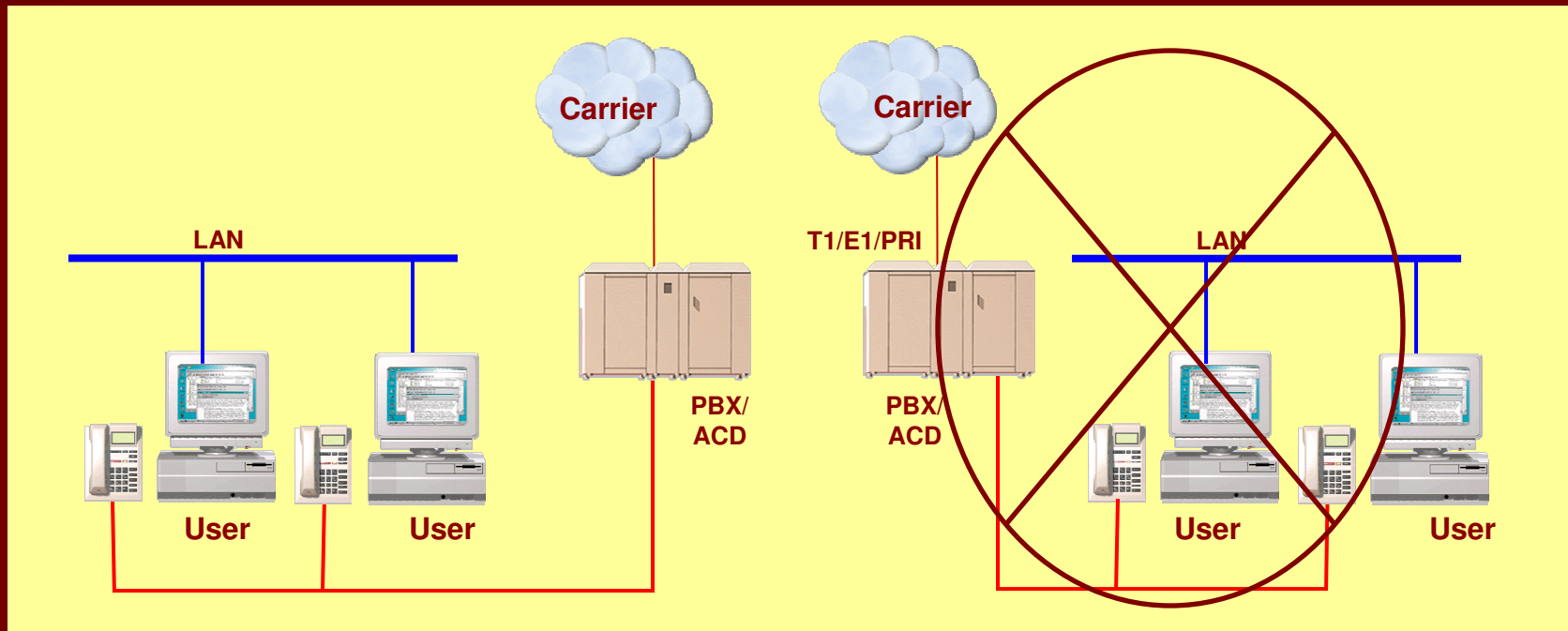
- A new poll of 307 chief information officers (CIOs) conducted by IDG's CIO Executive Council has found that 22 percent of CIOs do not have a formal disaster recovery plan in place at their organization, and **one in ten (9 percent) say their organization would last less than two weeks if local or regional technical infrastructure failed to recover quickly.** Of those who do have disaster recovery plans, only 31 percent rate their plan as "extremely or very effective."

Source: <http://www.continuitycentral.com/news02184.htm>

CIO Executive Council survey explores disaster recovery planning in US companies

TDM Disaster Recovery

- Disaster recovery -TDM



Lost calls, agents must have devices at home to remotely connect if at all, if not, understaffed to potentially handle HIGHER call volume depending upon reason for DR. Takes half hour or more to redirect calls to alternate site, no service in mean time for disaster area.

Service Level Expectations for Disaster Recovery

Traditional PBX Solutions and Applications

30 minutes

- Prompt, Auto Attendant

< 1 hour

- Full IVR

< 4 hours

- IVR + ACD (20 Agents)

48 hours

- IVR + ACD (100 Agents) + UM + Call Recording

or

Software-based IP PBX due to network architectures:

<2 minutes...

- All of the above

Survivor Guide: Hackers

Can you really offer
departments/users a highly secure
phone system with VoIP?

What are the real risks with VoIP?

- Availability
- Breach of Privacy
- Access
- Theft

What are the real risks with VoIP?

- Availability

DoS Attacks
Virus Attack
Physical Attack

- Breach of Privacy

Listening and recording by sniffing packets

- Access

VAM
Unauthorized
Access to systems

- Theft

Vishing
FoIP

What are the real risks with VoIP?

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DoS Attacks
Virus Attack
Physical Attack

Listening and recording by sniffing packets

VAM
Unauthorized Access to systems

Vishing
FoIP

Firewalls that are "SIP" aware

Encryption

Hardened Servers

Administrative Logs

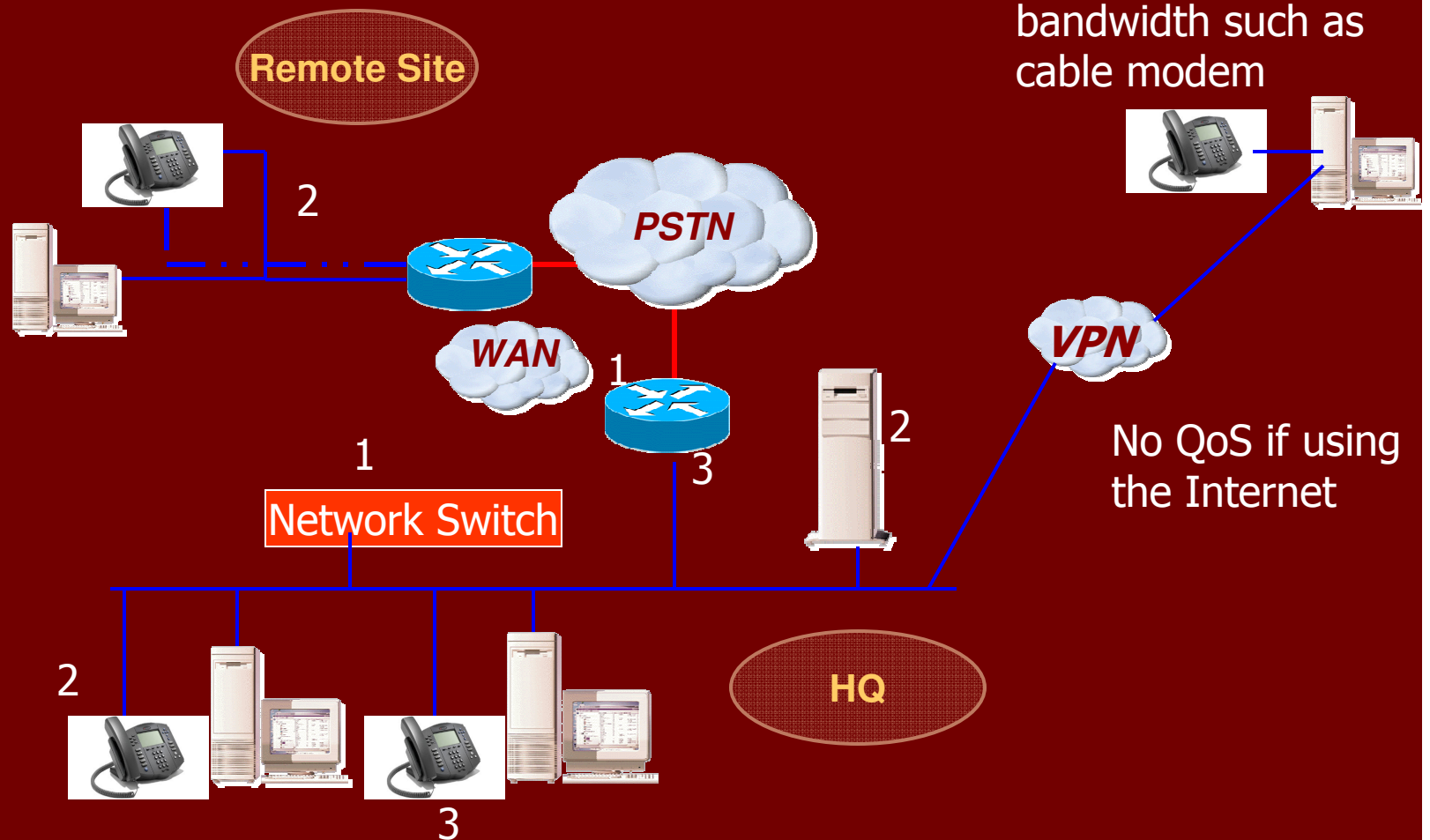
Password Policies

User Education

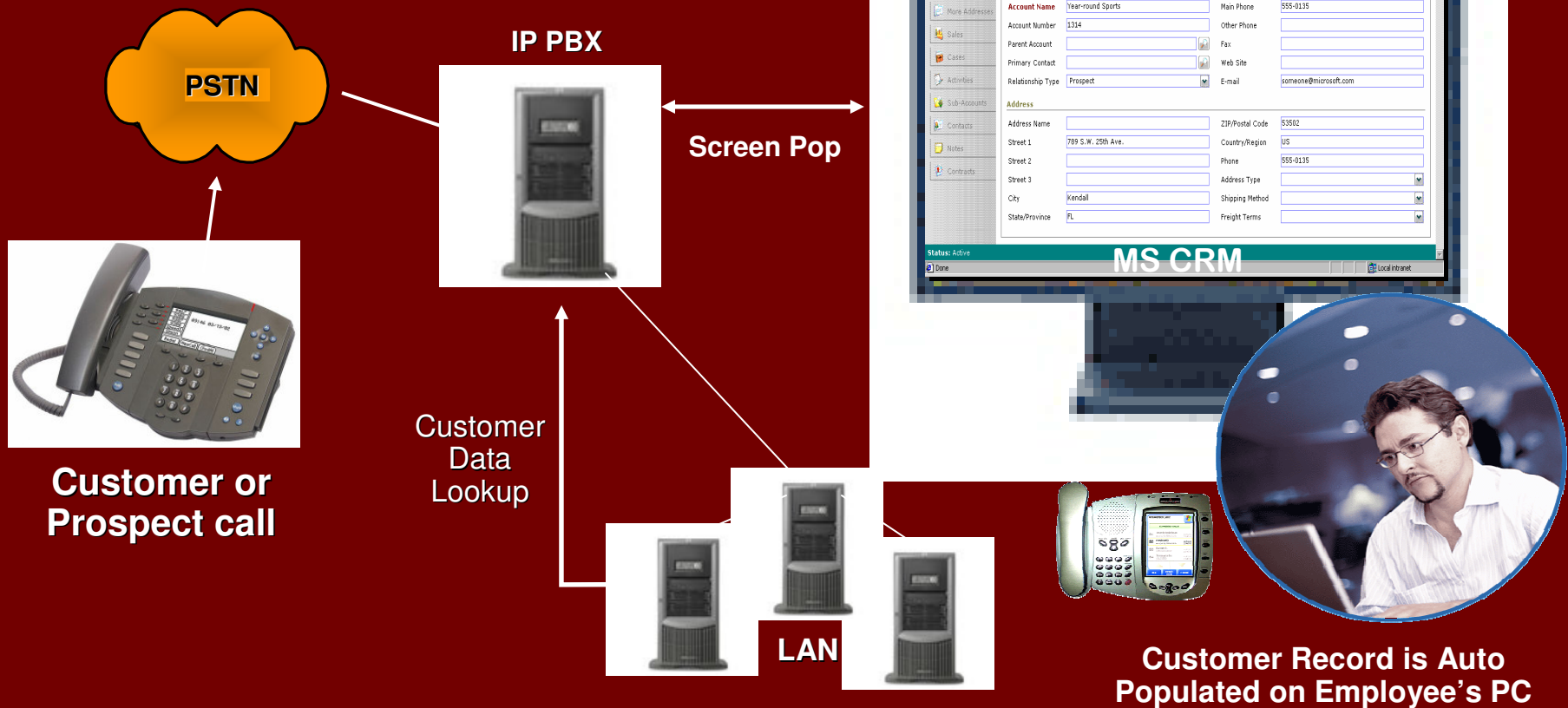
Survivor Guide: Unruly Users

What impact if any will there be on the general user? Isn't it still just a feature phone?

TeleWork – Improves Productivity



Data and Desktop "Screen Pop" Speeds "Power User"



In-office mobility – SIP wireless phones

- Station handset for campus use on a SIP compliant VoIP network
- Wireless SIP IP-Phone Wifi 802.11 B. Ind. support for UPNP and outbound proxy.
- Can be supplied power by connecting it to a personal computer via USB cable. The product is designed to work under various conditions and is easy to operate.



Great solution for station handsets for help desk technicians that also work the desk if you have a wireless LAN

Softphone and Mobility...

- **Softphone optional** – may be used with desktop phone in office
- **Virtual** - Log in from any location
- **Call control** - to transfer, conference, park, pick up, etc.
- **Presence management**
- **Directory management** - Speed-dials, company directory, much, much more...

Interaction Client (Jenna) IC Server Name VIPER

Interactions Queues Users Workgroups Configuration Help

Number: [input] [Make Call] [Conference]

My Interactions

Queue	Name	Number	Duration	State	Lstns	Recs	User	Call ID
[icon]	From: Armstrong, ...	8446	0:00:08	Alerting			JennA	1104...
[icon]	ChrisB	8322	0:04:13	Connect...			JennA	1104...
[icon]	To: Indianapolis IN (317) 332-2000		0:00:06	Disconne...			JennA	1104...

[Pickup] [Disconnect] [Hold] [Transfer] [Voice Mail] [Listen] [Record] [Pause]

My Status: [Available, No ACD] [Until]

Marketing Company Directory Sales Outlook Private Contacts Admin Speed Dial Admin IC Contacts

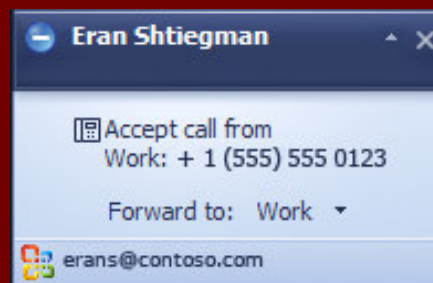
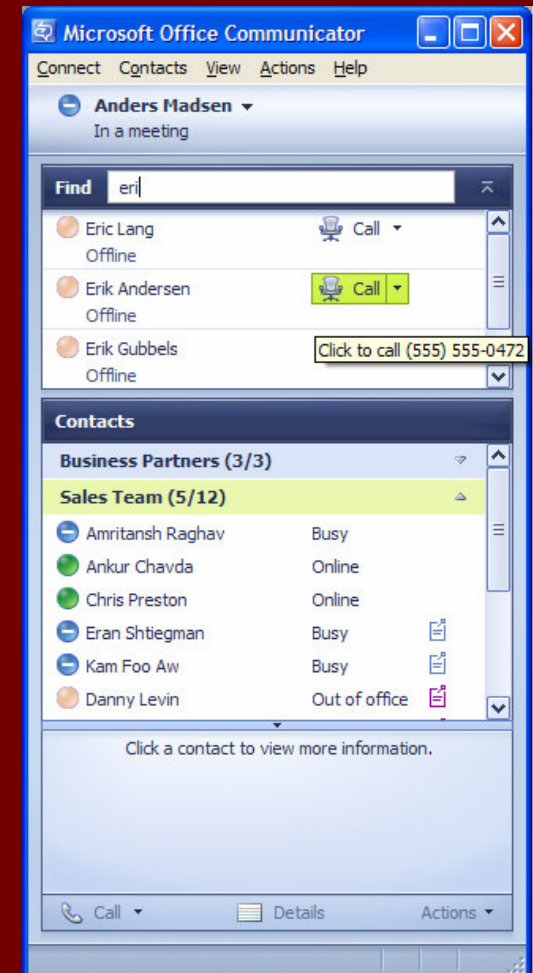
Last Name	First Na...	Phone Number	Status	Time in Sta...	Logged In
Hoffmann	Nichole	119	Available, No ACD	0:06:08	✓ Yes
Holley	Christine	8220	Gone Home	1:03:43	✓ Yes
Hoy	Sharon	8644	Available	0:08:09	✓ Yes
Kawamura	Clare	8421	Available	0:09:37	✓ Yes
McGlinch...	Rick	147	Away from desk	0:09:35	✓ Yes
Moan	Jay	8498	On Vacation Until Monday, July ...	5:06:07	✗ No
Oliner	Beth	8675	Available, No ACD	0:00:42	✓ Yes

Total Calls 12 Total Time on Calls 00:17:08 Longest Call 00:04:47 Avg Time on calls 00:01:25

**Access to call coverage options
and backup of other users**

Presence and IM integration

- In/out status improves coordination
- Notification at desktop
- Integrated Instant Messaging and Chat improve media access and availability



Microsoft® Office Communicator shown here supports SIP and is integrated to popular IP PBX's on market

Conclusion

VoIP Survivor Guide

Braving the new world of VoIP...

- Major benefits are available if VoIP fits with your overall business strategy
- Standards MATTER... dramatically lower costs and options
- VoIP doesn't have to be less secure with appropriate management
- Reliability and improved disaster recovery could be your killer app!

VoIPInstitute.net

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