



## Ensuring Reliability and Availability in a Unified Communications Environment

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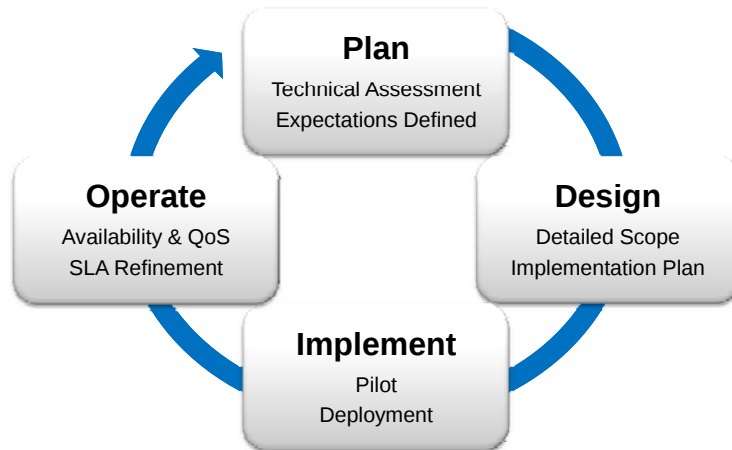
### Agenda

- UC Stages
- Quality of Experience
- UC Deployments
- User Scenarios
  - Integrating traditional UC services – e.g. voicemail, email
  - Moving to SIP
  - SIP Trunking
  - Microsoft Lync Integration
  - Virtualization
  - Multivendor communications infrastructure



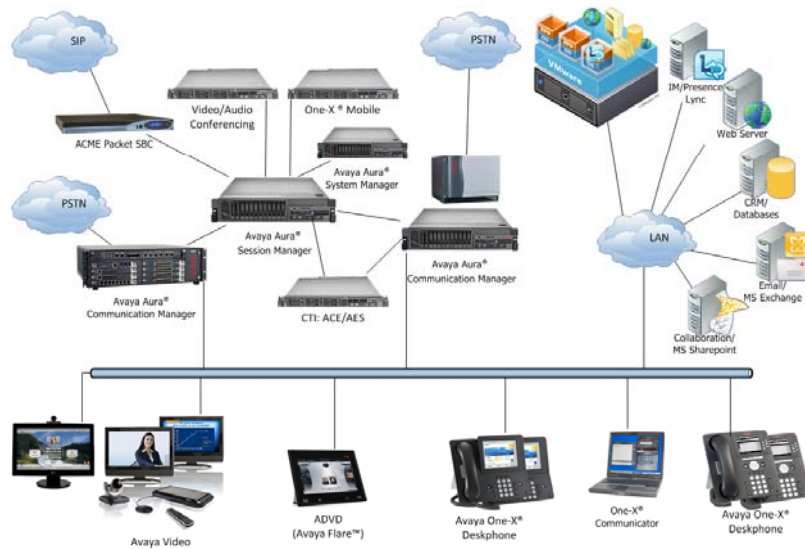
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## UC Deployment Cycle - Ensure ROI



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## Typical UC Deployment



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## What to Manage?

- Quality of Experience
- User centric view of the application or service
- Measures
  - Service availability
  - End user experience
  - Consistency of service
  - End-To-End experience
  - Impact of all components that are involved in delivering the service
- QoS is a network centric term measuring the treatment of the service in the network



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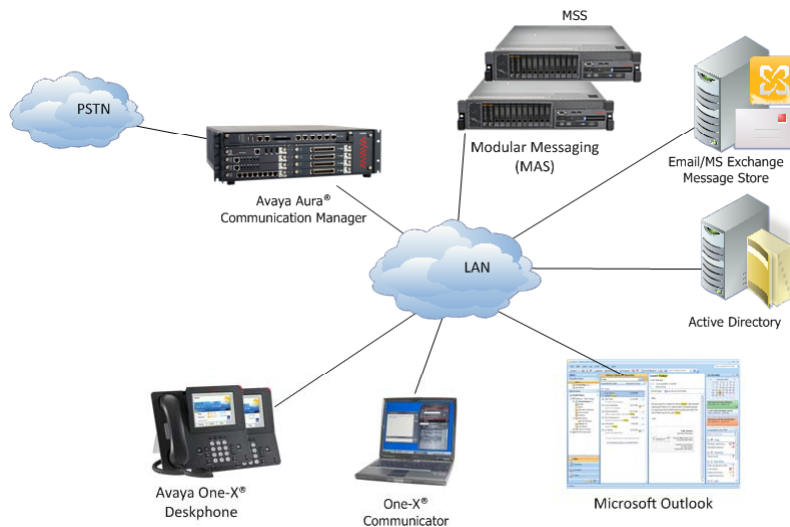
## Goals of UC Management

- Mean Time to Identify
  - Identify an issue has occurred
  - Isolate the issue
- **Mean Time to Convince**
  - Determine whose responsibility it is to fix the issue
- Mean Time to Repair
  - Tools required to resolve the issue
  - Verify the issue is resolved



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## Integrating voicemail and email



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## Potential issues

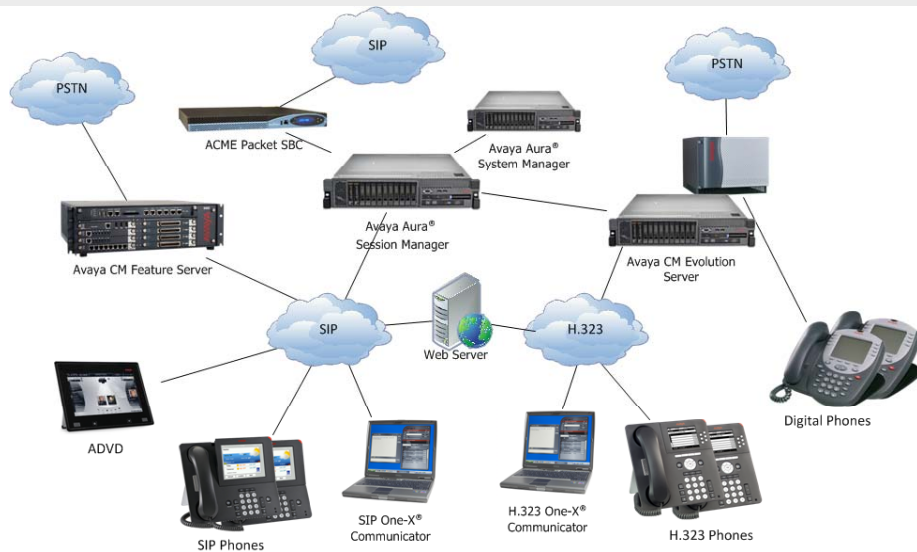
- Mailbox server not available
- Email not processing responses from the voicemail system
- Slow email delivery due to high CPU on voicemail system or email server
- Capacity planning – how much do you need, do you need more?



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## Migration to SIP



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## Potential Issues

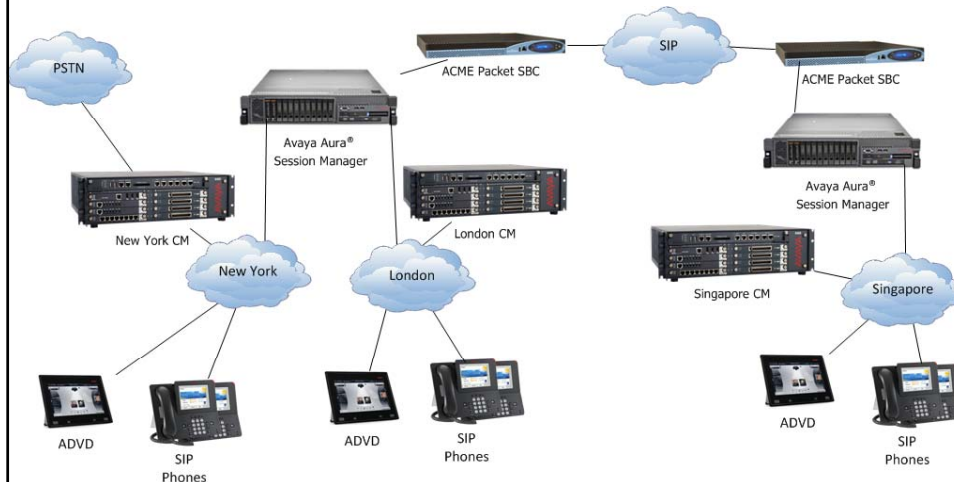
- HTTP server not available
- Phones not registering
- Availability of SMGR, SM, CM
- Performance on SM, CM
- Voice quality changes
  - were they there before?
  - Different routing?
  - Different network path?
- DSP utilization due to configuration changes – load balancing?
- Centralized routing – do you have enough capacity?



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## SIP Trunking



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## Potential Issues

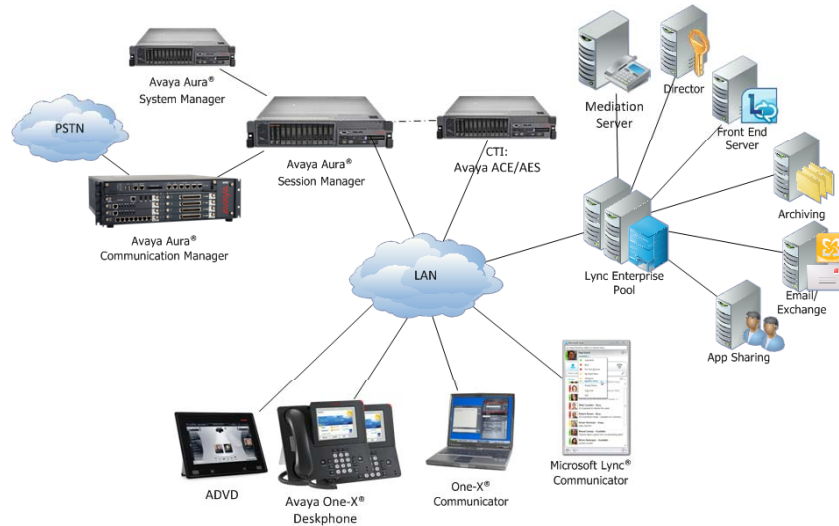
- Does the user care? No, they just want to make external calls, it is only a cost saving
- SBC
  - Availability & performance
  - capacity planning/usage – Have I paid too much?
- Voice Quality
  - were they there before? Is the network path different?
  - Shuffling – yes or no? where is the voice path now?
  - DSP resources on CM or SBC
- Centralized routing – do you have enough capacity?



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## Microsoft Lync Integration – Click to Dial



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## Potential Issues

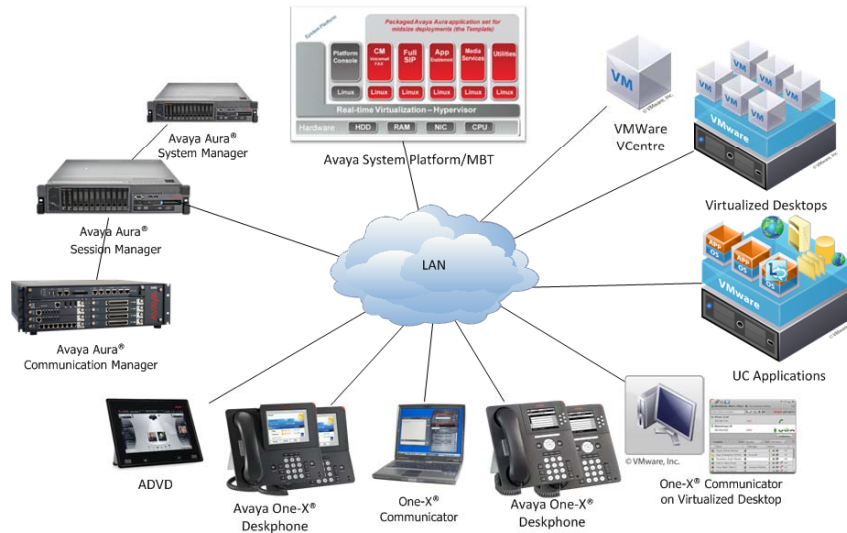
- Unable to make a call
  - is it click to dial
  - is it CTI
  - is it CM
  - is it the user phone
  - is the user able to dial that number
- AES/ACE
- Availability & performance
- Capacity planning/usage – do I have enough?
- Lync servers
  - are they up/down, CPU, memory, HDD
  - Lync connection to CTI



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## Virtualizing UC Apps

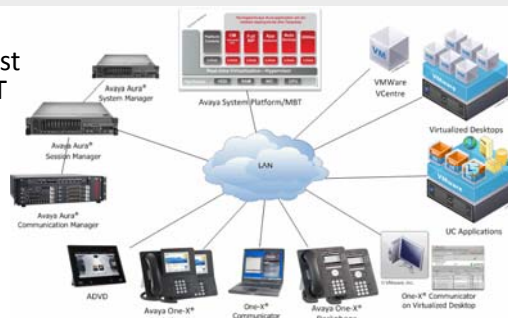


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## Potential Issues

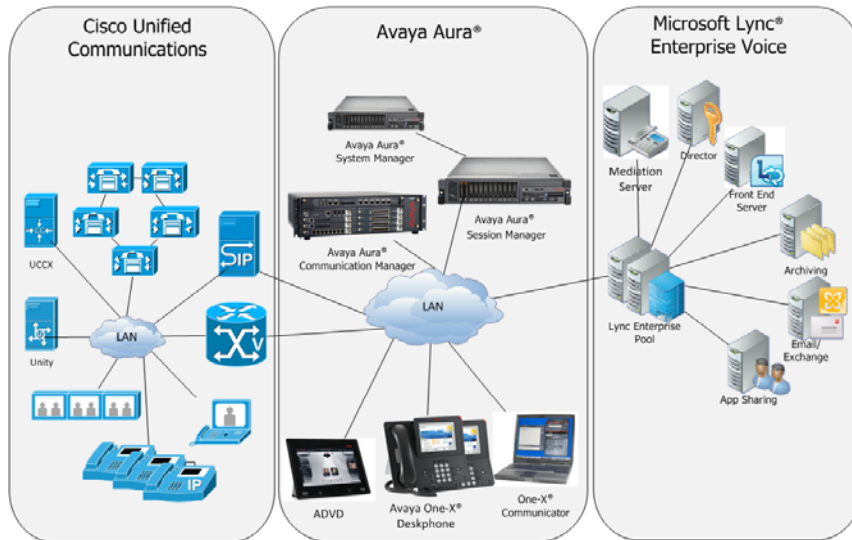
- Does the user care? No, they just want the same service, it is an IT cost saving
- Hardware faults have greater impact
- VMWare issues – vCPU, vRAM, vHDD
- Correlation of VM host to UC service
- Performance of the apps on the ESX server
- Performance of virtualized desktop with real time applications



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## Multivendor Communications

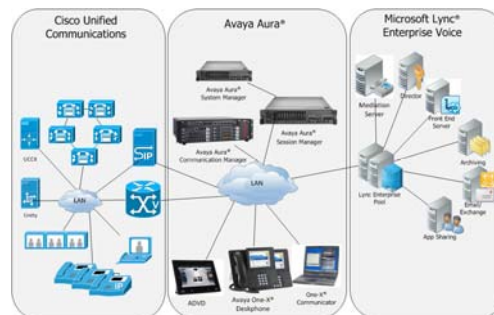


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## Potential Issues

- Does the user care? No, they just want to call someone. They do not know or care what type of phone the far end has
- Reducing Mean Time to Convince
- Configuration mismatches
- Where along the path are the VQ issues occurring
- Whose fault is it if the trunk is down
- Where is the trunk down
- All issues are magnified within a multivendor environment

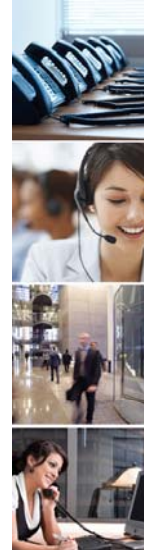


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## Conclusion

- The user is the key to UC
- Need to focus on the service that is being provided to your users
- Need to maintain a Quality of Experience between new and existing services
- A significant proportion of IT projects you undertake are cost savings or to build the foundation to offer new services – Does the user really care?
- Maintaining service levels are key to UC adoption



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## Thank You!!

### Questions?

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