

UC Transformation at BNSF

BNSF Railway

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BNSF is a Leading U.S. Railroad

- A Berkshire Hathaway company
- 32,500 route miles in 28 states and two Canadian provinces
- 41,000 employees
- Approximately 7,000 locomotives
- 13,100 bridges and 87 tunnels
- Moves one-fourth of the nation's rail freight
- Operates over 1,500 freight trains per day
- Serves over 40 ports
- Leads rail industry in technological innovation
- Unlike other forms of transportation, BNSF trains operate on an infrastructure financed almost entirely by the railroad



Technology Systems & Infrastructure



Core Infrastructure:

2,715 Locations
3 Data Centers
6K Miles of Fiber
14K Miles of Microwave
80K Communication Radios
28K Miles of Radio Coverage

Business Applications

Transportation System
Train Control & Safety
Detection Systems
Dispatch Management
Customer Relationship
SAP ERP

Data Center

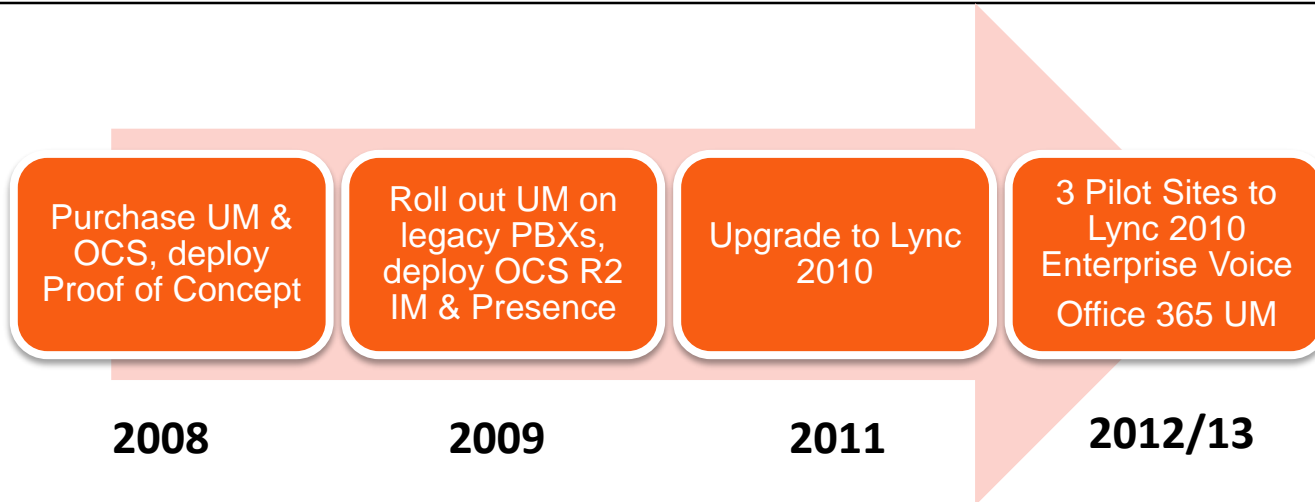
4 Mainframes; 7,698 MIPS
24M Transactions/day
2,300 servers
600TB storage
5,500 network devices
IBM service provider

Client

18K PCs / 6K printers
6,200 Mobile Email devices
45K Corporate Email User accounts
Dell service provider
600 BYOD devices

Extensive Business Systems and Telecommunications Network

Lync Timeline

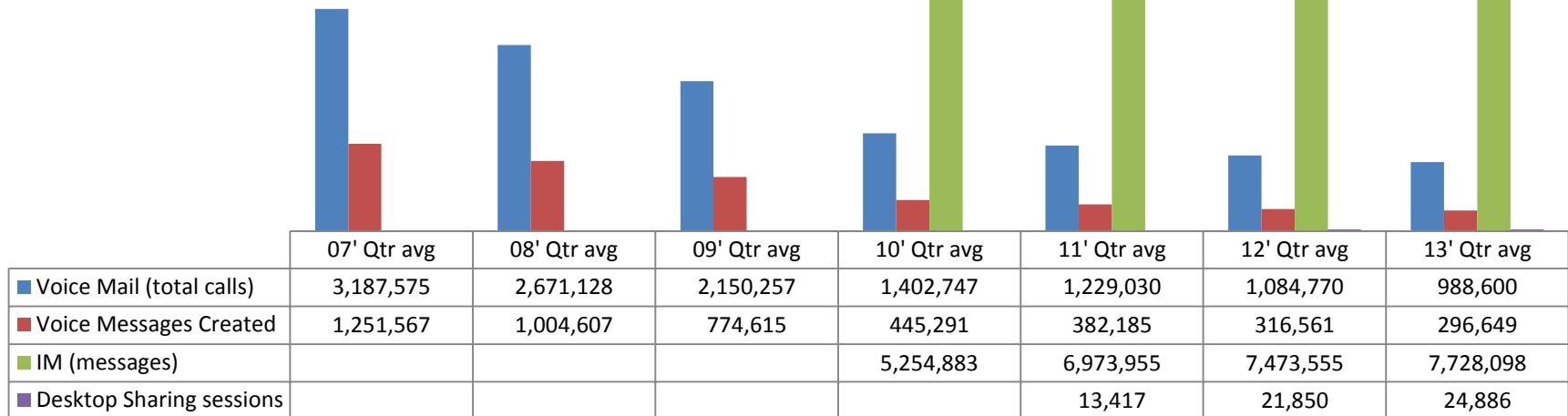


- **21,000 Users Total (3,500 enabled with Enterprise Voice & Conferencing)**
- **Fully redundant System**
 - 2 Pools, 6 Front End, 4 Edges in 2 Data Centers
 - SCOM for Lync Monitoring and Alarming
 - Lync Sites equipped with Survivable Branch Appliances supporting Modems, Faxes, downstream Avaya Gateways and TEHO

Communicate, Communicate, Communicate

2013 Volumes

- 29.9M Instant Messages
- 99K Desktop Sharing sessions
- 1.2M Voicemail messages
- 78 years of Audio Conferencing



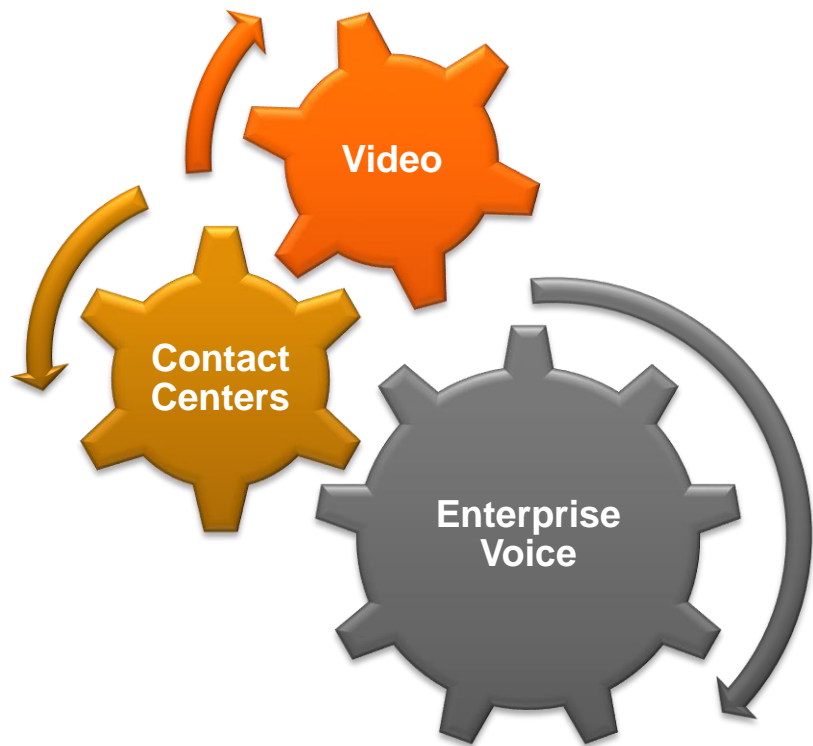
Voice Network - Challenges

- Complex Multi Vendor PBX environment
 - 30,00 digital and analog extensions
 - 18 Contact Centers
 - Dispatching application
- Primarily TDM
- Developed a Multi-year upgrade plan that aligns with IP
Microwave and Network Refresh plans

Lync 2013 - Next Gen Enterprise Voice

- Upgrade Backend Infrastructure to Lync 2013
 - Mobility, Skype integration, Lync Room Systems
- Centralized SIP Trunking
- Rip and Replace 213 PBXs with Lync converting from network edge systems in toward the core systems
- Replace existing phones with Lync phones & Headsets

The 3 “Cs” of the Mission



- **Consolidate** systems to reduce number of disparate systems, network size and complexity
- **Centralize** systems in the controlled environments of Data Centers
- **Converge** all voice, video, and data into IP packets transported over an *All IP Network*

What about Video Collaboration?



On the Go – Lync Mobility Client



Work Office – Polycom/Lync



Home Office – Lync

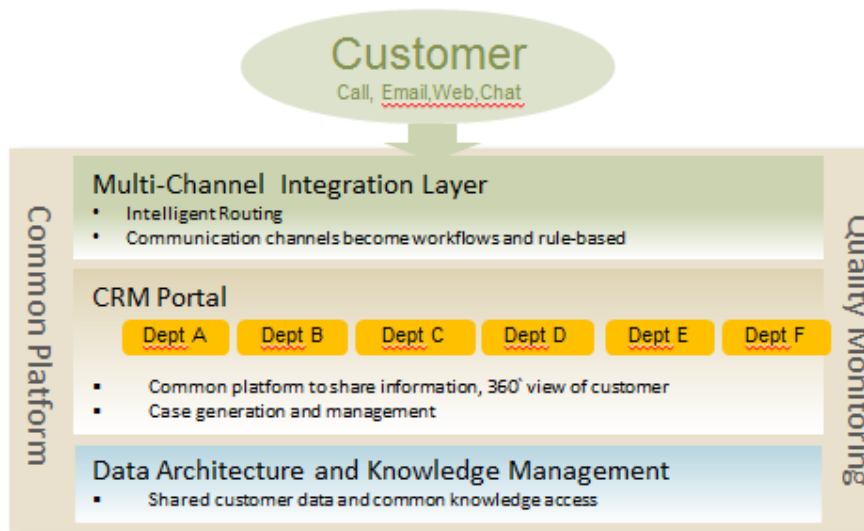


Conference Room – Polycom / Lync Room System

Using video and content sharing to easily connect users from any location to any location, enabled by Lync/Polycom integration

What about Contact Centers?

- Avaya Contact Center voice infrastructure out of support in 2014
- Additional requirements to support Multi-channel capabilities
 - Voice, Chat, Email, co-browsing, Mobility



Developed a plan to move to Genesys Contact Center with Lync integration

Hosted or On premise?

- Evaluated Carriers proposals for Lync Hosted
- Developed a very detailed business case

Why on Premise?

We have the talent
We have the infrastructure
Limited Savings

Why Hosted?

It is not our core business
Improved Savings

RailRoad 2020: Connecting people and information through technology

Positioning modernized systems to **deliver greater business value**, supporting **new market growth** opportunities and **efficient delivery** of our transportation services.

2014 – 2019 Plan

Mission

Design, implementation and integration of an industry leading converged voice and data network with a focus on quality of execution and customer satisfaction. Assemble a team of subject matter experts to fulfill this goal in an efficient and professional manner while having fun on the journey.

Approach

- Enterprise Voice
 - Install Microsoft Lync 2013 and Centralized SIP trunking in ATT Data Center
 - Migrate 20,000 users to hosted solution
 - Convert 5 Pilot sites to develop the implementation workbooks
 - Migrate 1 site a week for the following 4 years
- Contact Centers
 - Install Genesys contact center in ATT with Lync integration
 - Migrate 18 contact centers to Genesys Multichannel solution

Connecting people and information through technology

- Focus on Customer Training
 - Train the trainer
 - Champions
 - Training tools (Sharepoint, Yammer boards)
 - Site visits
 - Measure adoption to calibrate the plan
- Business Processes
 - Identify opportunities to integrate Lync with business applications
 - Leverage Video and Mobility to connect a disperse workforce

The image features a blurred train moving from left to right across the middle ground, set against a sunset sky with orange and blue tones. In the foreground, there is a dark gravel bed. To the left, a signal tower with two lights (one green, one red) stands on a small structure. The BNSF Railway logo is prominently displayed in the center, consisting of the letters 'BNSF' in a large, bold, white sans-serif font with a registered trademark symbol, and the word 'RAILWAY' in a smaller, italicized, white sans-serif font below it, separated by a white horizontal line.

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