



Brooktrout

## VoIP Opportunities for Enabling Technologies

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Brooktrout

## Brooktrout Safe Harbor Statement

This presentation may contain forward-looking statements about the expected future performance of the Company. Brooktrout's actual results and performance may differ materially from what may be suggested by any forward-looking statements made in this presentation. We refer you to Brooktrout's most recent publicly available filings with the SEC, including but not limited to our Annual Report on Form 10-K and our most recent Quarterly Reports on Form 10-Q, for a detailed description of the various factors that may cause Brooktrout's actual results and performance to differ materially from what is discussed at this presentation.

## Brooktrout At A Glance

- Leading enabling technology provider
- Unique partner philosophy
- \$74.7MM revenue in 2003
- \$58.5MM in cash\*
- 14.3MM wgt avg shares outstanding\*
- >300 customers/quarter
- Founded in 1984 – public company since 1992
- Global company
  - Headquarters in Needham, Massachusetts
  - Principal offices in MA, NH, CA, Belgium, UK and Japan
- 306 employees worldwide\*

\* as of March 31, 2004

## SnowShore Networks Acquisition

- Acquired for \$9MM cash on April 5, 2004 (\$38MM original VC investment)
- 19 employees (development team)
- 2 product lines:
  - Media Server products – Enhanced VoIP Services
  - Media Firewall products – Border Session Control
- In early stage test and deployment
- 11 patents pending (SIP/signaling, low latency packet processing, high density VoIP testing, etc.)
- Pioneer in SIP development

### Estimated Market Growth

	2003	2007 E
IP Media Servers	\$16MM	\$481MM
Session Control	\$25MM	\$624MM

Source: Yankee Group

## VoIP Trends and Opportunities

- Strong interest in rolling out VoIP
  - Inter-exchange traffic (Service Provider)
  - PBX replacement (Enterprise)
  - Replacing legacy equipment with next-gen equipment
- Growth opportunities
  - Enhanced services to gain market share (proven model)
  - Enhanced services to defend market share (proven model)
  - Enhanced services to enter new markets (new model)
- Based on technology enablers
  - Multimodal interfaces: speech recognition, web and visual interfaces, etc.
  - Web model of application development: fundamental change to enhanced services market

## Importance of SIP to VoIP

- Legacy approach to application development
  - Requires expertise in arcane technologies
    - AIN, SS7
  - Parlay / Jain: move development to Java
    - 1MM programmers, but who knows SR-3511? GR-1129? SS7 Call Model?
- New Network™ approach
  - Use proven client/server, stimulus/markup model
  - SIP and XML
  - Developer pool
    - HTTP->SIP and HTML->XML
    - All college graduates exposed to technologies
- Pioneered by SnowShore in 2000, in field by January 2001

## What is a Media Server?

- Heavy lifting media processing for applications, optimized for IP processing
  - Play announcements
  - Record messages
  - Conference mixing
  - Detecting tones
  - Video play and record
  - Speech recognition
  - Speaker identification and verification
- Support for partner enhanced service applications
  - IP Centrex™ / Hosted PBX
  - Messaging
  - Conferencing
  - Gaming

## Media Server Delivery

- Old Network (TDM)
  - Media Server embodied in an Intelligent Peripheral or Service Node
  - TDM-optimized
  - All-hardware solution
- New Network™ (IP)
  - Media Server is IP-optimized
  - Application bridge from TDM network to IP network
  - Mix of hardware and software modules



- Superior to TDM-based offerings
  - TDM equipment with IP interfaces introduces significant latency
  - Low latency critical for Quality-of-Service
- Superior to proprietary hardware offerings
  - Much faster time-to-market for new features and functionality
  - Meets Brooktrout's customers' needs faster
  - Several packaging options
- Software-only offerings
  - Hardware acceleration, applied when necessary, can uniquely deliver Quality-of-Service for IP applications

- Data firewall well known: keeps unwanted traffic out of enterprise or service provider network
- Legitimate multimedia traffic does not look like legitimate traffic
  - Need to know what is VoIP and real-time video traffic
  - Extremely low latency required to meet voice Quality-of-Service needs
- Media Firewall gets VoIP traffic in to and out of network
- Brooktrout Media Firewall is a low-latency, IP-IP gateway
  - NAT/P, IPv4-IPv6, firewall traversal, transcoding



- Session Border Controller (SBC)
  - Two components, Application Layer Gateway (ALG) and Media Firewall
    - Under control of ALG, allow media to pass
    - MF enforces service level agreement
    - MF provides firewall traversal services
    - MF performs necessary media transcoding
  - Component split enables scalable, carrier-class deployments
    - Brooktrout partners with ALG providers *and* softswitch players
- Push-to-Talk® (PTT) Support
  - Media controller for PTT application
  - Floor control, enterprise firewall traversal



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|---------------|----------------|--------------|
| • 3COM        | • Indigo       | • RADCOM     |
| • Acme packet | • IPDialog     | • Radvision  |
| • Broadsoft   | • Level(3)     | • SandCherry |
| • Converse    | • Mailvision   | • Serome     |
| • CyberTel    | • Mockingbird  | • Siemens    |
| • Data Con    | • Motorola     | • SIPcomm    |
| • Encore      | • Nokia mobile | • SS8        |
| • Ericsson    | • Nortel       | • VegaStream |
| • France Tel  | • Nuera        | • Winboard   |

## Lab Tested

- Accenture
- Alcatel
- AT&T
- BellSouth
- Cisco
- IBM
- Iperia
- MCI
- NEC
- Nihon Tandem
- Orange
- PingTel
- Qwest
- Sprint PCS
- Sylanro
- Syndeo
- TekVizion
- Telica
- T-Systems
- VocalData
- Z-Tel

## Certified Partners

- BayPackets
- BellNet
- Dynamicsoft
- Herit
- Leapstone
- LongBoard
- NextGen/Nissho
- NexTone
- Openwave
- Personeta
- Sonus
- Ubiquity



- Voice Messaging software platform
  - Extends capabilities for email, voicemail and multimedia for large-scale carrier networks
- Chose Brooktrout A1-G2 Media Server:
  - Best SIP/VoiceXML platform: fast port of Openwave's legacy application
  - Single, flexible, highly scalable platform
  - Interoperability between third-party applications and networks



- Sonus' Access Softswitch (ASX) platform
  - Announcements
  - IVR
  - Conferencing
  - Third-party applications
    - IP voicemail
    - IP IVR
    - Prepaid
- Chose A1-G2 Media Server:
  - Supports deployment of multiple, converged next-generation applications
  - Shorter development and testing cycle
  - Deliver cost-effective, high margin services
  - Reduces CAPEX and OPEX costs

### NEC

- Deliver turn-key session control services to Japanese carrier market
  - Enables key business and consumer services such as IP centrex, virtual call center and intelligent dialing applications
- Chose A1-G2 Media Firewall:
  - Integrated solution delivering scalable, wire speed media processing performance
  - Firewall traversal support to connect islands of VoIP
  - Open and flexible SIP-based architecture
    - Minimizes number of network elements required to successfully deploy VoIP services
    - Reduces carrier CAPEX costs
    - Allows easy scalability of VoIP deployments

- Proven experience in delivering multiple, enabling technologies
- IP migration expertise
- Pioneer in SIP technology
- Field-tested products
- Hardware and software
- Solid financial position



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