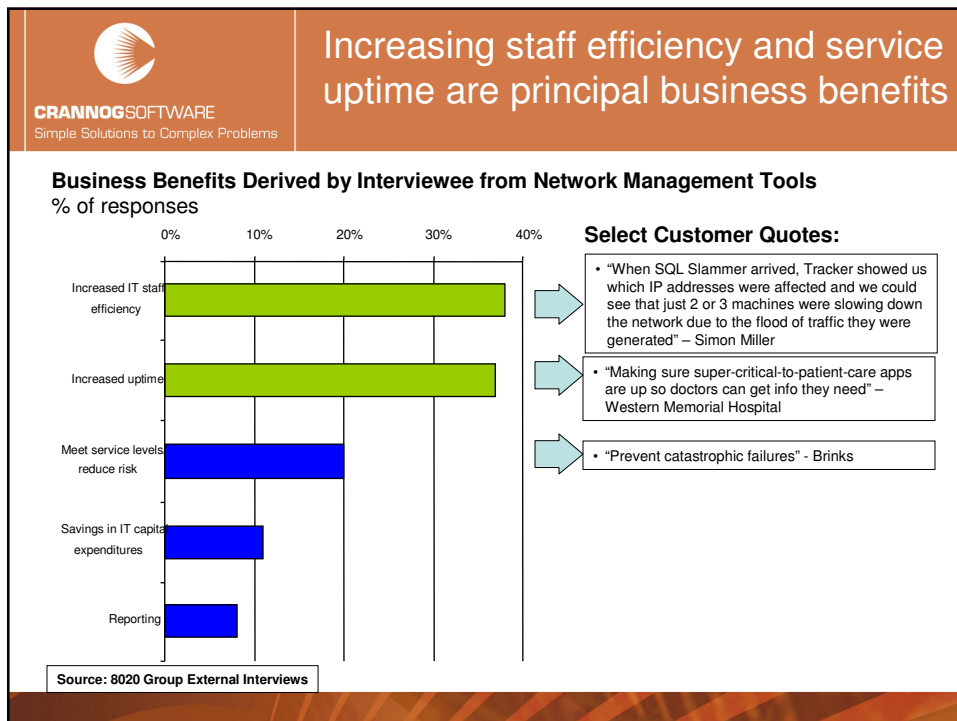


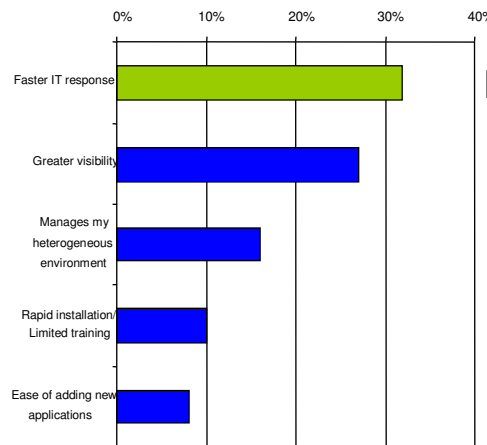




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Faster IT response key technical benefit sought from Network management tools

Technical Benefits Derived by Interviewee from Network Management Tools % of responses



Source: 8020 Group External Interviews

Select Customer Quotes:

- "We needed something to provide summary for us to look at, a more holistic approach, which we could then drill into by Subnet or protocol" – Simon Miller



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Network Management What you need to know

- **Status** Is the device/ link up or down?
- **Utilisation** What % of the link is being used?
- **Usage** What/Who is using the bandwidth?
- **Response Times** "The network is slow" is a typical user comment. How do we gauge this ?
- **Where is it?** Isolate the problem area/s.

*All information needs to be easy
to access easy to use and easy to
read*





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Network Management Who needs to know?

• Technical Support Staff need to know for

- ✓ Pro-active responses to reduce NW downtime
- ✓ Updating staff on issues to reduce calls to helpdesk
- ✓ Proving its not a network related issue
- ✓ Becoming a profit centre, not a cost centre
- ✓ Impact analysis for new application rollouts
- ✓ Defining Service Levels
- ✓ Fault Management



• The business needs to know for

- ✓ Interdepartmental billing
- ✓ Capacity Planning – real-time and historical reporting



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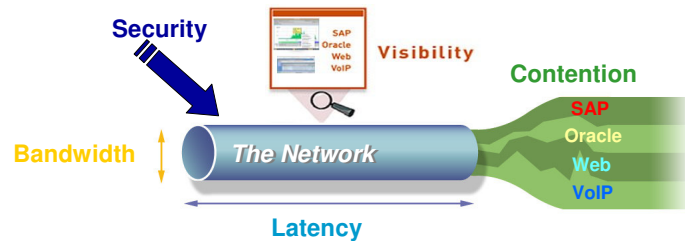
Network Management Traditional problems !

- Some Enterprise NMS systems **cost** the same or more than the network they were managing and require sometimes additional hardware.
- Usually **Console based** on 'big servers' – limited access by limited number of users
- Usually present **technical information** geared to technical people – limited use to general network users, line managers and senior business managers
- Usually require **several applications** by different vendors to provide full functionality – more training, more administration, more headaches
- Usually **difficult to set up and administer** – difficult adds, moves and changes headaches



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A Challenged Network

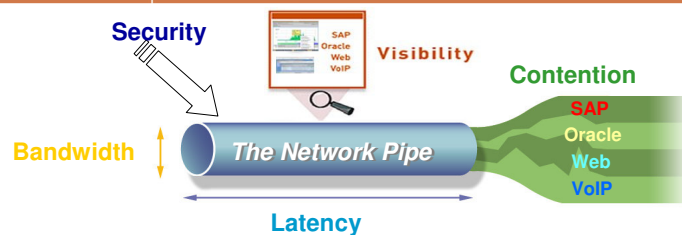


- New Applications requiring special considerations such as VoIP
- Vulnerable infrastructure to security threats coming from inside and outside the company
- Higher demand of quality of service, more complex to control and manage



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Solving Network Challenges



Bandwidth	Visibility	Contention	Latency	Security
Never enough or just Faulty CPE?	Application flows and performance	Competing applications & users	Slow application response, bad Voice quality & SLA problems?	DDOS attacks, virus and worms problems?

Global view for a Complete Manageability



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Netflow/IPFIX

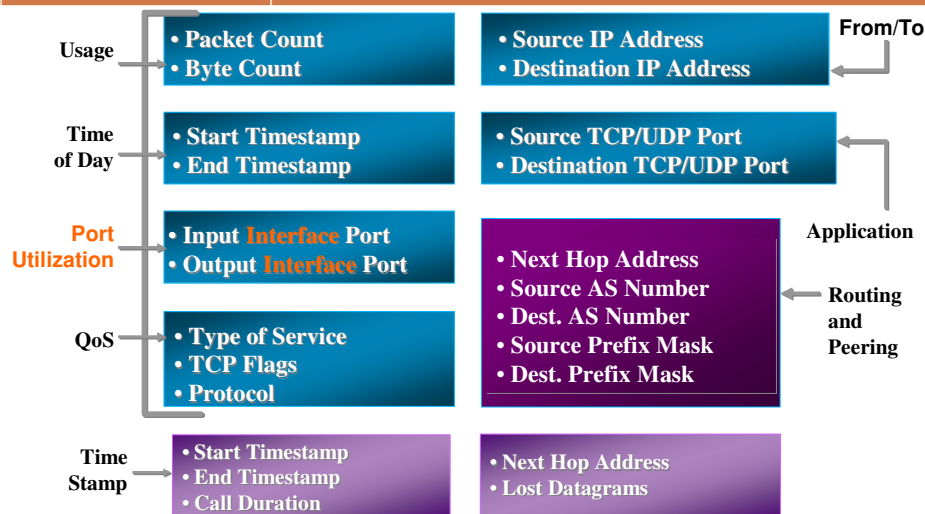
Effective response to Network Challenges

- **Developed by Cisco in 1996**
- **It was the first version of CEF (Recognised Flows)**
- **Embedded, scalable and distributed technology**
 - does not cause cpu or memory overhead
 - help to leverage the network assets
- **Complete visibility of your network performance and utilization**
 - Bandwidth, Utilization (Application/User), Conversation, Security
- **Taken to IETF and on standards Track (IPFIX)**
 - Support of SCTP, Packet Chunks, additional Security fields, MPLS and IP v6 new fields



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NetFlow Data Record



Available via Netflow only

Also available via RMON

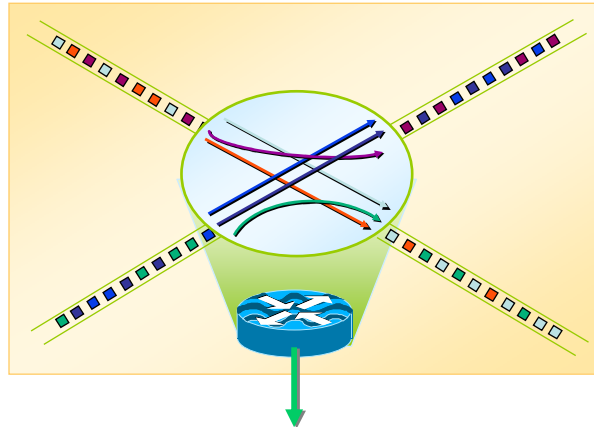


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Flow-Based Analysis

Seven Keys Define a Flow:

1. Source Address
2. Destination Address
3. Source Port
4. Destination Port
5. Layer 3 Protocol
6. TOS Byte (DSCP)
7. Input Interface



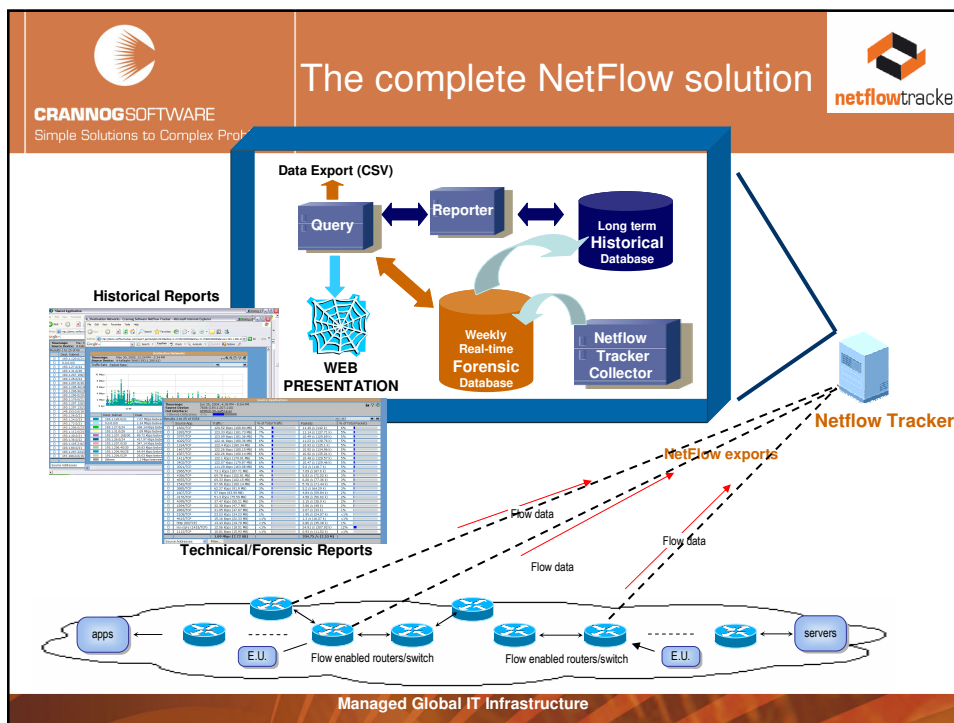
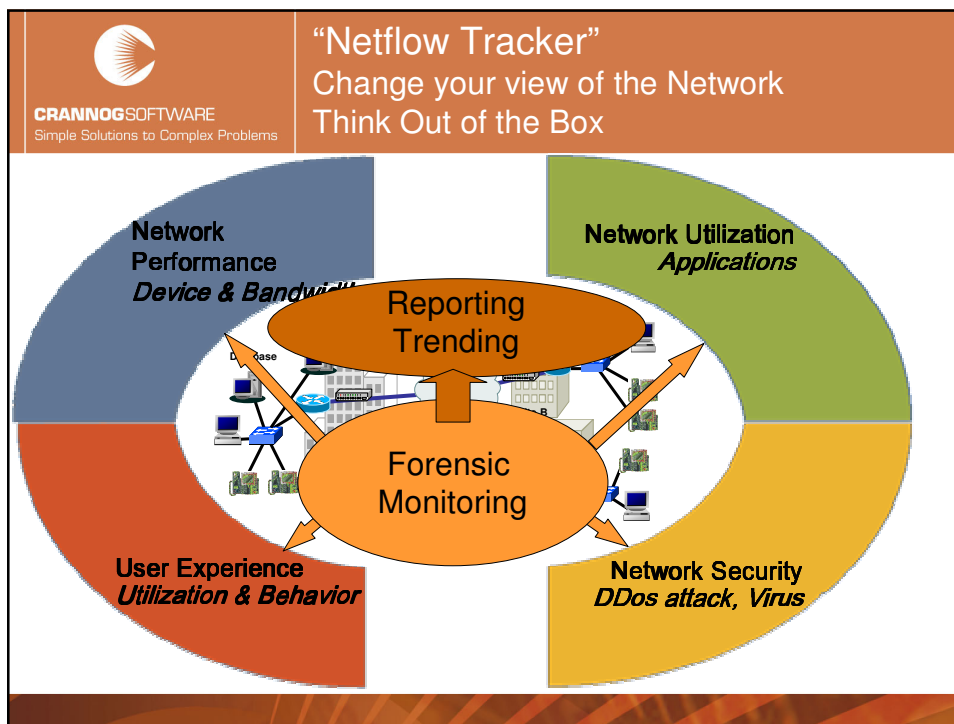
NetFlow Data Exported



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Netflow/IPFIX Business Scenarios of Use

- **Bandwidth Usage per Minute**
 - Record of every IP conversation per interface
 - Identify top Application usage per routers, ports, subnets, As,...
- **Security Data Source**
 - Record of every source IP to source Interface
 - Track end user behaviors
- **IPT Management**
 - View of every conversation per class of service
 - Associate with ResponseWatch (IPSLA) manage for Voice Quality
- **Forensics for Worm and Virus**
 - ICMP Volume, Source/Dest IP/Interface, Worm Ports Trackable





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Complete understanding of your network utilization



- **Traffic utilization**
 - Peak Traffic In and Out
 - Interface % utilization
 - Traffic Rate
 - Packet Rate
- **Advanced Filtering & Grouping**
 - Per Router/Switch
 - Per Port
 - Per Subnet/AS
 - Per Netflow Stats
- **All Netflow fields**

• Source addresses	• Client-Server Sessions	• Network Pairs
• Destination addresses	• Conversations	• In Interfaces
• Address Pairs	• Types of service	• Out Interfaces
• Protocol	• Differentiated Services	• Next Hops
• Source Ports	• Destination ASs	• Sources Addresses dissemination
• Destination Ports	• Source ASs	• Destination address popularity
• Destination Applications	• AS Pairs	
• Sources EndPoints	• Source Networks	
• Server-Client Sessions	• Destination Networks	



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Complete, Simple Scalable & Integrated



- First and unique to collect, store and present all IP conversations using Netflow = **Forensic AND Historical**
- Can analyze impact of various criteria such as voice, virus, hacking due to the scalability and the forensic visibility
- Leverage your network assets = **No need of any additional Probes or Agents**
- Gives a **view** of the whole network utilization on a **per interface, per application, per user, per port basis, per subnet, per AS** from a central point.
- Can report per minute up to the last minute on every interface for in depth analysis
- Different architecture allows **scalability** to any organisations and **easy Integration** with third party applications and Web Portals.





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“Think Out of the Box”

Thankyou for your time

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