Delivering Business-Critical IP Multicast Applications Securely
Agenda

• Intelligent Information Network
• Challenges prior to Secure Multicast
• Secure IP Multicast Solution
• Benefits
• Summary
The Intelligent Information Network

• Goals:
  • Accelerate integration of innovation into the network
  • Embed intelligence to create a unified networking system
Intelligent Network Benefits

• Secure infrastructure
  • Self-defending network mitigates threats, both known and unknown

• Faster deployment of service and applications
  • Integrated modular systems and management reduce custom integration
  • Granular policy controls couple network with business processes and services

• Reduced complexity and lower TCO
  • New capabilities and technologies are simpler to integrate
  • Integrated systems and management reduce OpEx and systems integration
Information Security Objectives: Security as a Business Enabler

- Align security practice and policy to business requirements
- Use IT investments to “go on the offense”
- Reduce complexity of the overall environment
- Gain protection, control, and visibility over incidents and threats

On Demand Organization

Adaptive Organization

Agile Organization

- The network touches all parts of the infrastructure
- It is uniquely positioned to help solve these issues
Cisco IOS Secure Multicast
Delivering on the IIN Vision

• Secure infrastructure
  • Network fabric seamlessly protects business applications and communications

• Faster deployment of service and applications
  • New applications come online with no or low touch
  • IT staff concentrates on productivity, NOT how to secure the application

• Reduced complexity and lower TCO
  • New security controls reduce total IT lifecycle
### Cisco IOS Secure Multicast

**Overcoming Existing IP Multicast Security Challenges**

<table>
<thead>
<tr>
<th>Tunnel Based</th>
<th>Secure Multicast</th>
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<tbody>
<tr>
<td>Bolted on</td>
<td>Built in</td>
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<tr>
<td>Complex architecture</td>
<td>Seamless integration</td>
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<tr>
<td>Wasted capital</td>
<td>Investment protection</td>
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<tr>
<td>Rigid design</td>
<td>Flexible design</td>
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<tr>
<td>Simple transport</td>
<td>Intelligent transport</td>
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**Fueled by demand for agility within a security framework**
Cisco IOS Secure Multicast
Securing Business Intelligence

- First in the industry to offer native IP Multicast encryption
  - Performs and scales well beyond existing tunnel-based solutions
  - Combines with industry-leading routing features

- New approach
  - Industry-standard encryption techniques
  - New group keying mechanism
  - Seamlessly integrates with mVPN

- Developed to overcome the current inefficiencies and inflexibility facing tunnel-based IP Multicast security today

Applications:

- **FINANCE**
  - Stock trading
  - Stock quotes

- **ENTERPRISE**
  - Video conferencing
  - Corporate communications
  - DB replication

- **SURVEILLANCE**
  - Security
  - Childcare

- **ENTERTAINMENT**
  - Video games
  - Animatronics

- **INFORMATION SHARING**
  - e-learning
  - Software distribution

- **MEDIA**
  - Internet audio (Live)
  - Video on demand
# Cisco IOS Secure Multicast

## Technical Benefits for VPN Deployments

<table>
<thead>
<tr>
<th>Previous Limitation</th>
<th>Solution and Associated Benefits</th>
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<tbody>
<tr>
<td><strong>Multicast encryption through IPsec tunnels:</strong></td>
<td>• Extensible standards-based framework: Multicast today, extends to support Unicast in future</td>
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<tr>
<td>- Not scalable</td>
<td>• Group mode encryption: Reduce configuration overhead</td>
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<tr>
<td>- Difficult to troubleshoot</td>
<td>• Higher scalability</td>
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<tr>
<td>- Limited QoS support</td>
<td>• Simplifies troubleshooting</td>
</tr>
<tr>
<td><strong>No optimal security in mVPN architectures</strong></td>
<td>• <strong>Native multicast encryption</strong></td>
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<tr>
<td></td>
<td>- Seamlessly integrates into mVPN architectures</td>
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<td></td>
<td>- Day-one transparent interoperability between various core Cisco IOS® technologies e.g. native multicast encryption</td>
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<tr>
<td><strong>Overlay VPN Network</strong></td>
<td>• <strong>Leverage core for multicast replication</strong></td>
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<tr>
<td>- Overlay routing resulting in suboptimal convergence</td>
<td>- Investment protection: New architecture leverages the core and investment costs spent on building core</td>
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Secure Multicast
Reducing the Cost of the IT Lifecycle

- Business objective drives new application deployment
- Concurrent security services not just secure multicast
- Seamless characteristics reduces design time
- Ongoing operations and troubleshooting are more efficient
  - Increase uptime
  - Increase time to resolution
- Cisco IOS® interface and new keying mechanism drastically reduce implementation time
Cisco IOS Secure Multicast
Why Cisco Leads the Market

- First to market
- Low total cost of ownership
- Investment protection
- Leader in technology innovation
- Sustained R&D spending
- Integration of advanced services
- Quality, service, and support
Summary: *Only* Cisco Can Deliver the Total IPSec VPN Solution

- Delivers the widest range of IPSec VPN solutions in the industry
  Start with the solution that works best, knowing you can migrate between solutions without replacing hardware

- Cisco® gives you the option of integrating services (e.g. voice, content, authentication) with our VPN solution

- The Cisco VPN solution is proven: Live networks over 10,000 locations *in production*

- Our VPN solution is just one element of our broad security portfolio
Secure Multicast Resources

- www.cisco.com/go/multicast