



## Background

- RUNet's current flat policy allows pervasive advertisement and transmission of high-rate multicast streams
- Many types of multi-megabit applications (multimedia, PC imaging) have become more taxing on RUNet resources causing operational problems
- Some developers of IP multicast enabled apps have used multicast group addresses that may lead to the unintentional leaking of the app to Internet2
- Local network discovery mechanisms probably should not leave the LAN
- RFC2365 defines the 239.0.0.0/8 range for private use in the enterprise by network administrators

## Potentially unintentional multicast groups:

224.2.0.2/32	Altiris Rapideploy
224.2.0.3/32	Altiris Rapideploy
224.77.0.0/16	Norton Ghostcast
229.55.150.208/32	Norton Ghostcast
225.1.2.3/32	Altiris Developement Server & Deployment Agent
234.42.42.42/30	Phoenix/Storagesoft& Imagecast
239.254.5.6	ECopy ShareScan

## Local Scope-Scope Relative Range

Address	Services Discovery Protocols
239.255.255.255	SAP Session Announcement Protocol (SDR)
239.255.255.254	RFC2730 Multicast Address Dynamic Client Allocation Protocol (MADCAP)
239.255.255.253	Service Location Protocol (SLP) v2
239.255.255.252	RFC2776 Multicast-Scope Zone Announcement Protocol (MZAP)
239.255.255.251	Multicast Discovery of DNS Services
239.255.255.250	WinXP SSDP for UPnP
239.255.255.249	DHCPv4
239.255.255.248	AAP
239.255.255.247	Message Bus (MBUS) RFC2359

Network service discovery protocols found in the Local Scope-Scope Relative range.

Don't confuse 239.255.255.255 SAP with the globally visible 224.2.127.254 SAP.

# Administratively Scoped Multicast per RFC2365

Organization-Local Scope Expansion	239.0.0.0
Do Not Use	239.0.0.0/24
IANA Reserved	239.0.0.0/10
IANA Reserved	239.64.0.0/10
Do Not Use	239.128.0.0/24
IANA Reserved	239.128.0.0/10
Organization-Local Scope /14	239.192.0.0
ENTERPRISE 239.192/14	239.192.0.1
Org-Local Scope - Last Address	239.195.254.255
Org-Local Scope Relative-Do Not Use	239.195.255.0/24
Local Scope Expansion	239.196.0.0
REGION 239.196/14	239.196.0.1
CAMPUS 239.200/14	239.200.0.1
Reserved for RUNet Private SSM /16	239.232.0.0
IANA Reserved	239.252.0.0/16
IANA Reserved	239.253.0.0/16
IANA Reserved	239.254.0.0/16
Local Scope /16	239.255.0.0
IANA rasadv	239.255.2.2
Local Scope-Scope Relative-Do Not Use	239.255.255.0/24

# Proposed Rutgers Organizational-Local Scope Multicast Groups Ranges

Range	Base	IP Address
CAMPUS	239.192.0.0/14	239.192.0.1 – 239.195.254.255
REGION	239.196.0.0/14	239.196.01. – 239.199.255.254
ENTERPRISE	239.200.0.0/14	239.200.0.1- 239.203.255.254

## Multicast Boundary Filters

- Multicast boundary filters are special filter rules used to manage multicast scopes
- When applied to the router interface either prevent or allow multicast traffic in and out of the router's interface
- For example, if Ghost cast is denied, then it would not enter the interface or leave it.

## To translate:

- TD will be looking to constrain certain “bad” groups to the LAN, including the default addresses for popular imaging apps and service discovery protocols
  - If you want to use Ghost or Altiris imaging applications over RUNet, you will need to reconfigure your application to use the appropriate ORG-Local address range
  - DHCP will continue work as it always has
- Feel free to use the 239.0.0.0/8 Multicast address space for your applications
  - IETF intends for this space to be used in an ad-hoc manner
- If you want your multicasts to leave the University, call the NOC to reserve a GLOP address or to make sure we allow transit for the application’s IANA-assigned address

# Questions?