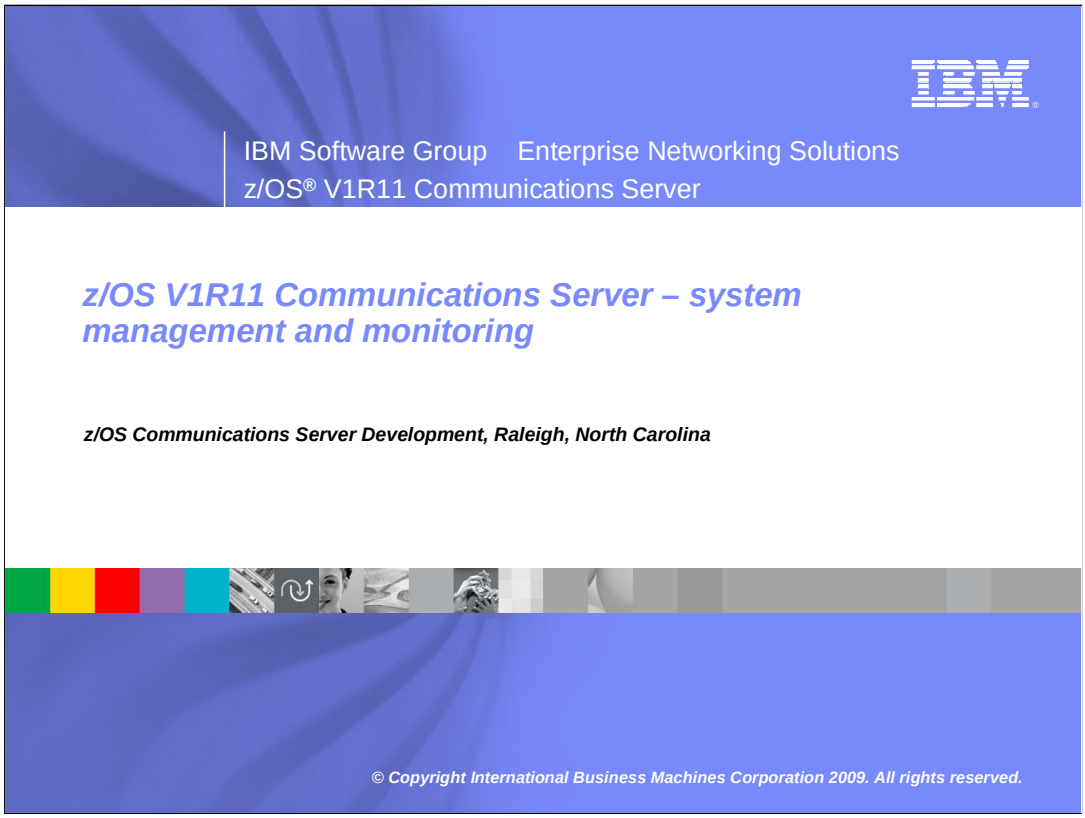
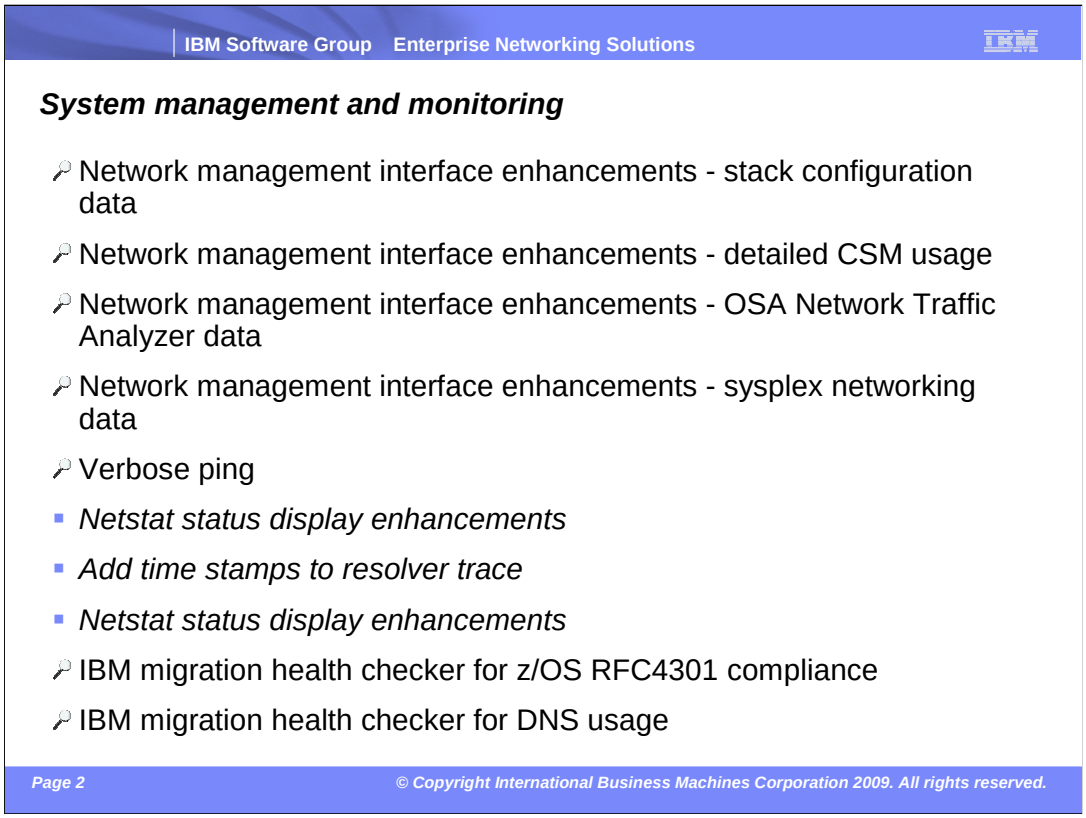
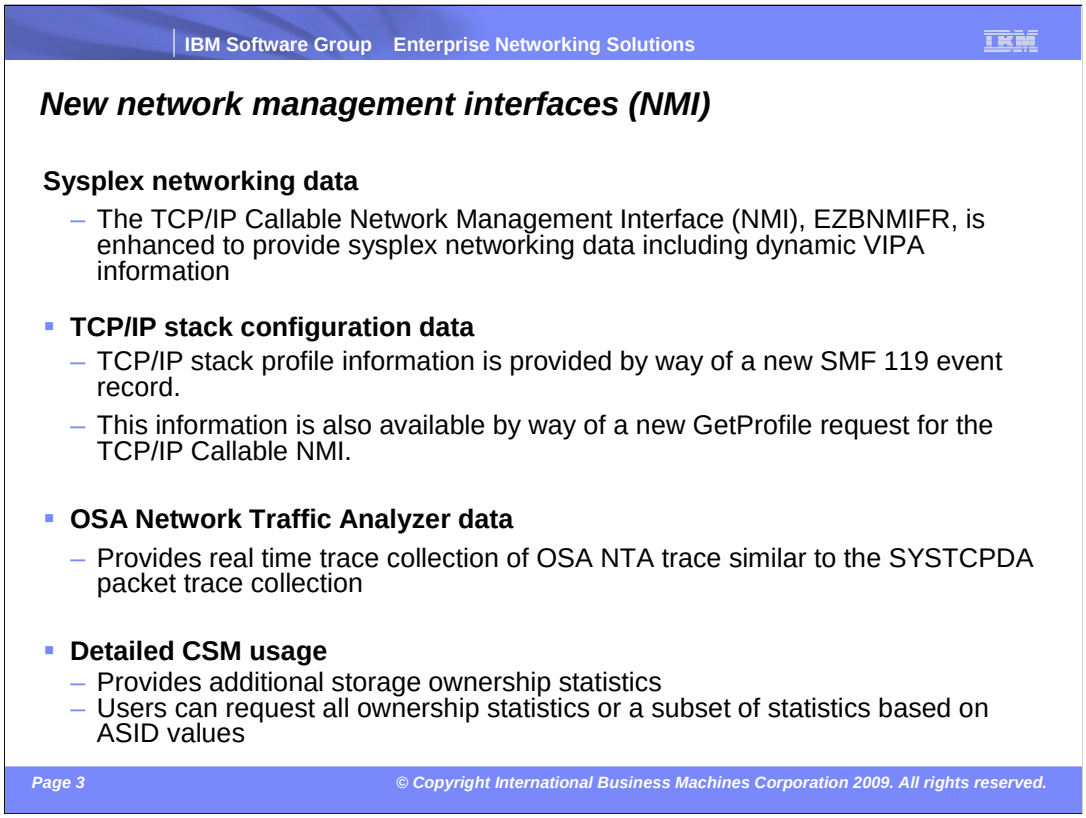


This presentation will give you an overview of the enhancements to the Communications Server in z/OS V1R11 for system management and monitoring. The system management and monitoring theme includes various enhancements needed by network management vendors, including Tivoli®, and improved management functions that have been requested by customers.



Systems management and monitoring delivers a significant set of new network management interfaces (NMI) to enable network management software from Tivoli and other vendors better insight into z/OS Communications Server.



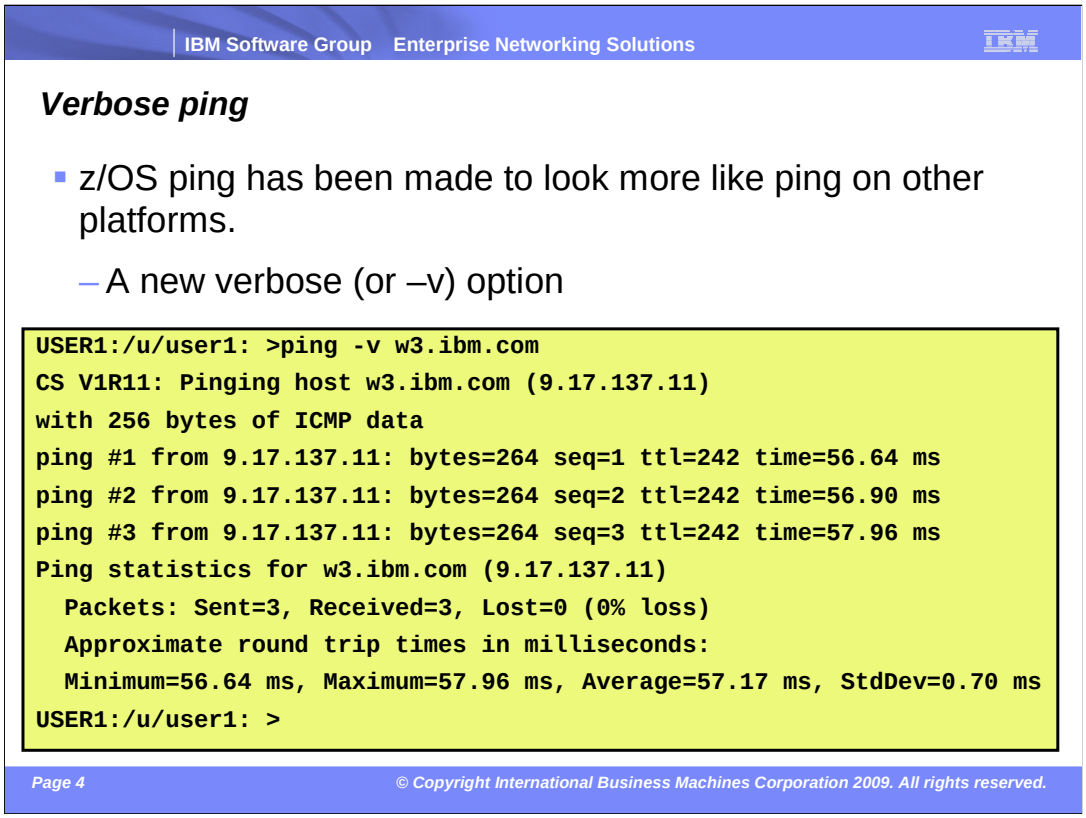
There are four new Network Management Interfaces (NMI) in this z/OS V1R11 Communications Server.

The existing dynamic VIPA Enterprise Specific MIB requires use of SNMP queries to retrieve the information. The new NMI provides similar information, but in a much more efficient way for local network management applications.

The stack configuration NMI allows both query functions of the current stack configuration, and alerts by means of SMF records when an OBEYFILE command has been executed. The intent is to allow improved auditing of TCP/IP stack configuration and dynamic changes to that configuration.

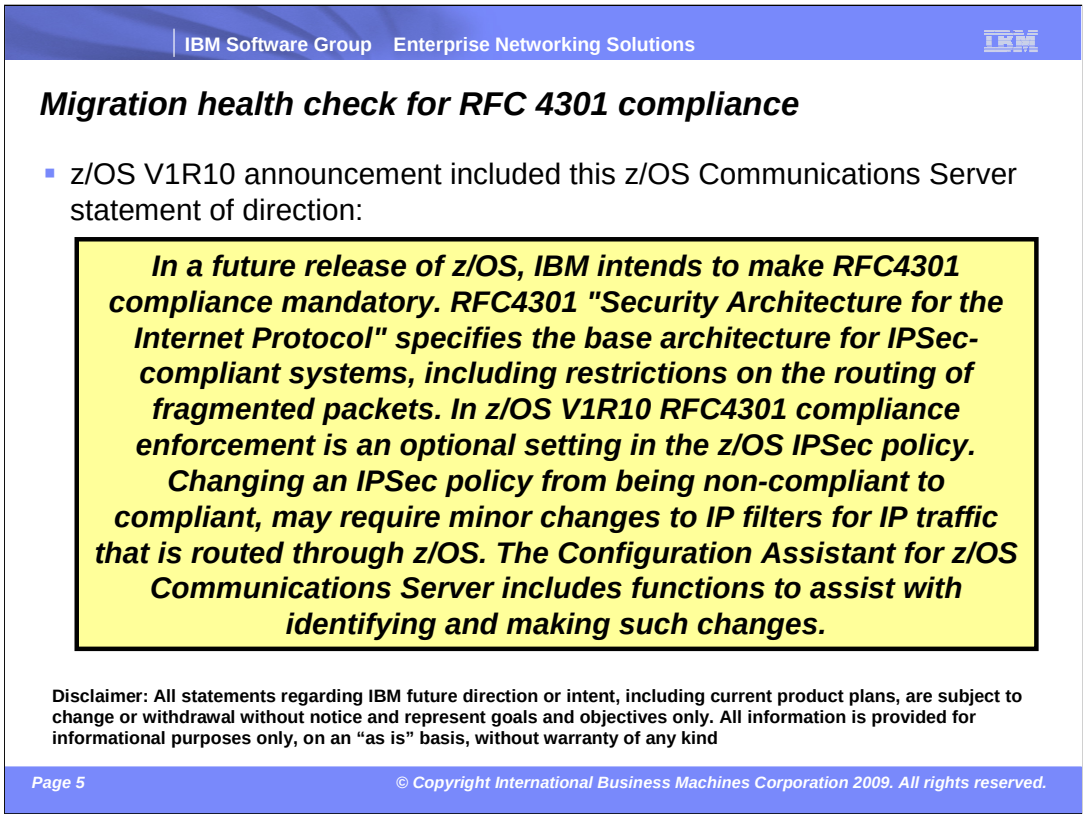
The existing real-time packet trace NMI is enhanced with the ability to also request real-time tracing obtained from the OSA Network Traffic Analyzer (NTA) function.

The existing interface to obtain CSM usage data does not allow retrieval of that data at a level that is granular enough. The enhanced NMI allows retrieval of CSM usage per using address space.



z/OS ping has been made to look like ping on most other platforms.

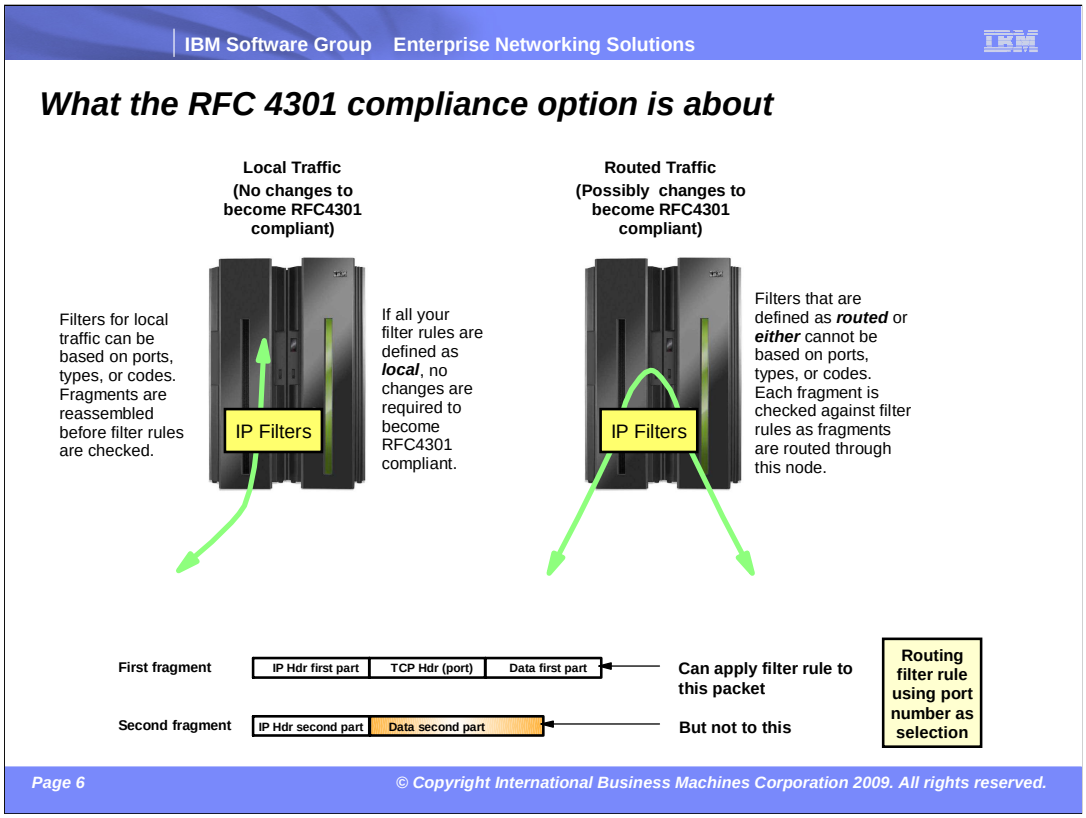
The new verbose or –v option will by default send three echo requests, calculate statistics for those three requests, and display the statistical summary as the response.



In August 2008, when the availability of z/OS V1R10 was announced, there was a statement of direction included that talked about IPSec RFC4301 compliance.

In z/OS V1R10, Communications Server implemented support for an updated IPSec standard – referred to as RFC4301. That standard set some stricter rules for how to apply packet filters to packets that were routed through an IP node that used IP filters. In z/OS V1R10 and in z/OS V1R11, you have an option available that basically disables the check for RFC4301 compliance. This allows you to continue to use IP filters for routed traffic that is not in compliance with RFC4301.

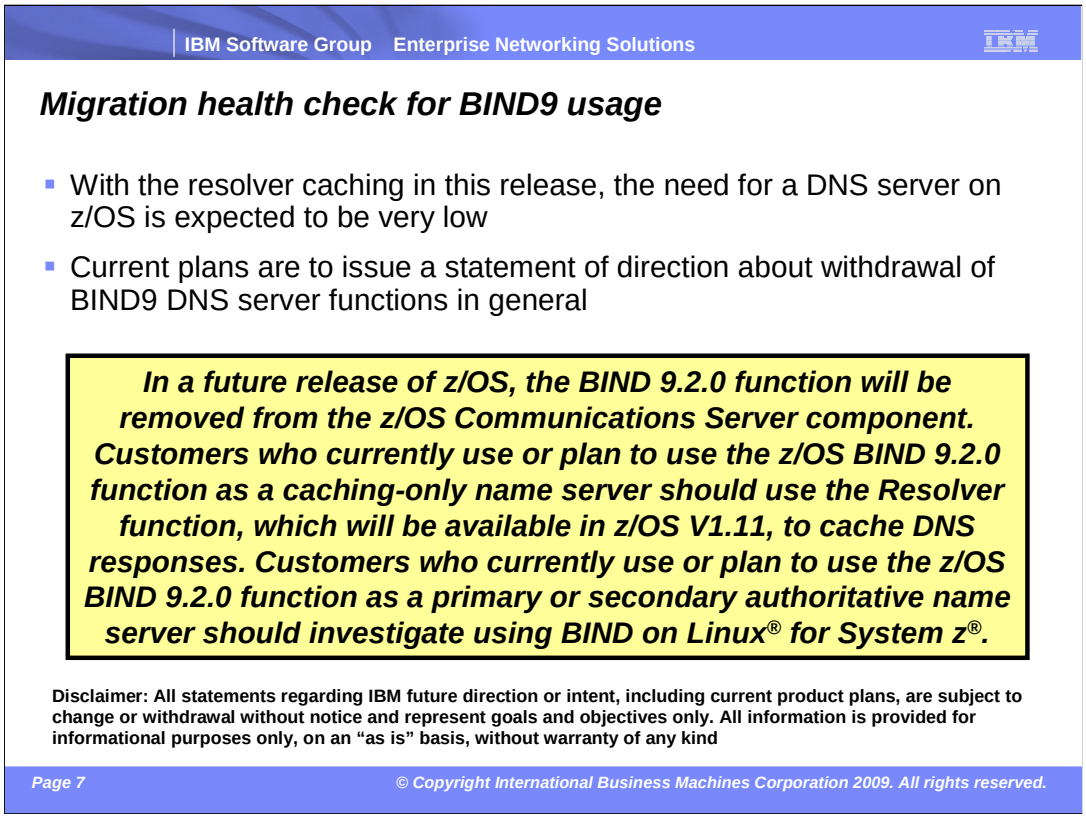
The rationale for the switch was to allow affected customers time to change their IP filter rules. At some point in time (after z/OS V1R11), z/OS Communications Server intends to remove the switch – requiring IP filter rules to be in compliance with RFC4301. It is the general policy of z/OS Communications Server to stay in compliance with RFC standards. Customers are encouraged to also do so in this case.



The issue that was addressed by RFC4301 was that when IP packets are routed through an IP node, IP packet filters are applied to possible fragments of IP packets. If an IP packet has been fragmented in the network, only the first fragment will include a transport layer protocol header. Only the first fragment will have information about TCP or UDP and port number, or ICMP codes, and so forth.

If an IP Node applies filters to routed traffic, those filters cannot include transport layer information, but only refer to information that is available in the IP header itself.

“Real” firewalls will normally deal with this by being “state-full”. When the first fragment passes through, they will cache identification information from that first fragment. That way, they can match the fragments that follow to the cached information from the first fragment. z/OS Communications Server is not a state-full router – it will not remember any information from one fragment to the next when fragments are routed through z/OS. However, when the traffic starts or ends on z/OS, IP filtering is done before fragmentation of outbound traffic and after reassemble of inbound fragments. In those two cases, the full IP packet content is available for inspection.



Maintaining DNS BIND on z/OS requires z/OS Communications Server development and test resources that can be used for other networking functions on z/OS. It is expected that after the z/OS V1R11 system resolver cache function, the number of customers who will continue to have a need to run a DNS BIND server on z/OS is very low. The assumption is that the demand will decrease so that it likely can be addressed by locating the name server on another System z operating system, such as Linux on System z. DNS BIND is a component that is generally available on Linux.

This is a statement of direction. If z/OS Communications Server learns that this direction is not the direction a significant amount of customers want to move, z/OS Communications Server is open to other suggestions.

Otherwise, expect DNS BIND software to be removed from z/OS Communications Server within the next few years.

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