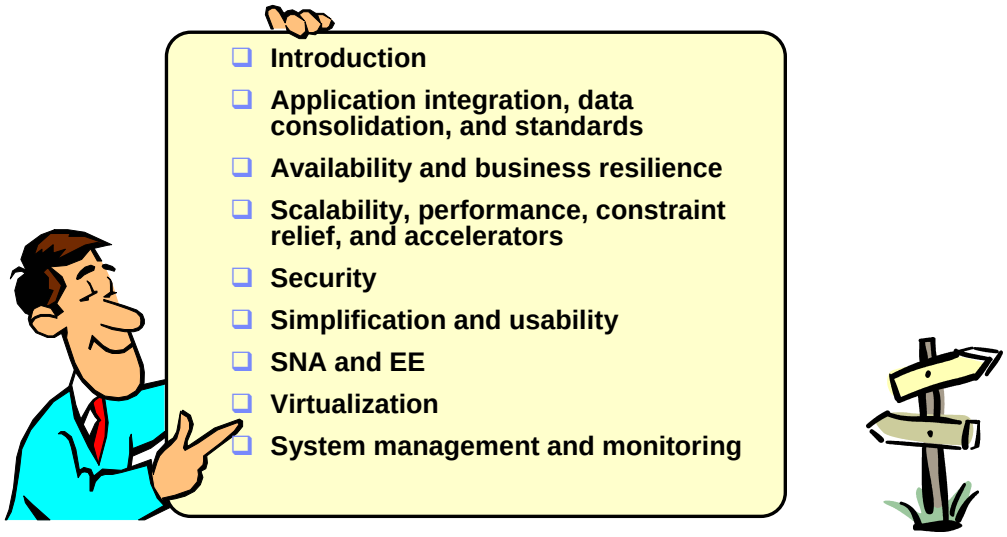
This presentation will give you an overview of the enhancements to the Communications Server in z/OS V1R11.

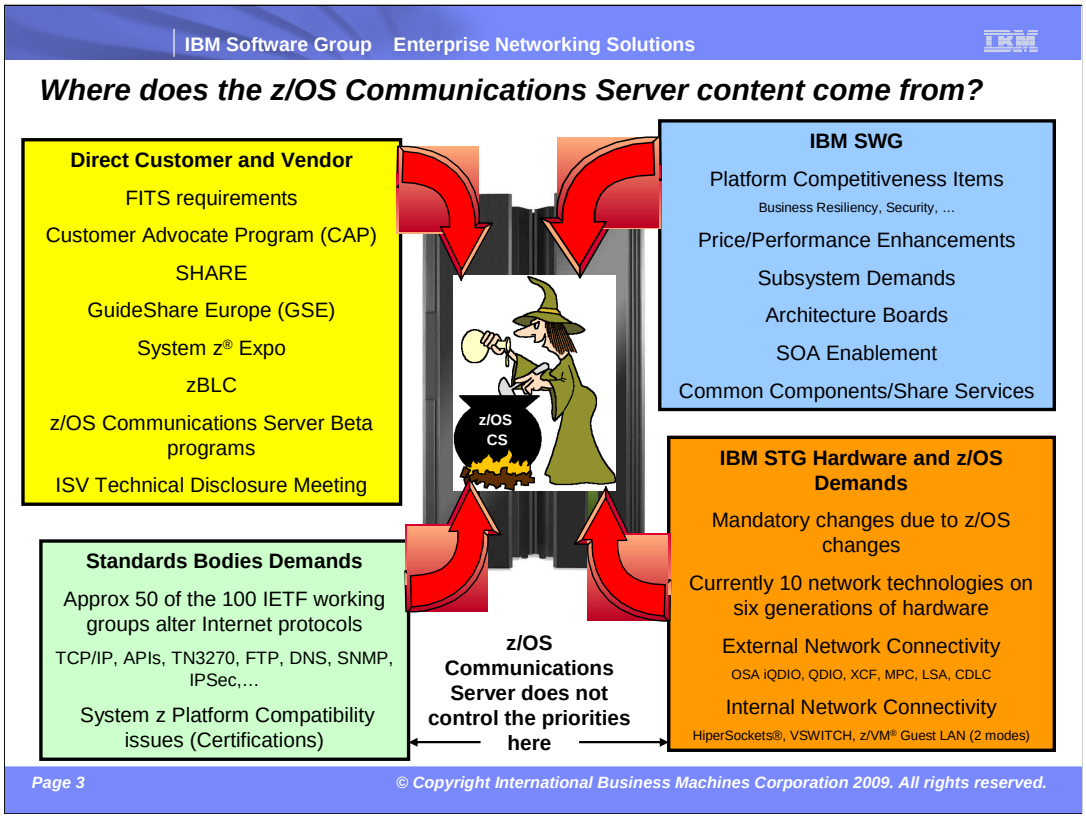
Agenda



The purpose of this presentation is to provide you with an overview of the enhancements to the Communications Server in z/OS V1R11. As such, the presentation will focus on overall concepts. This presentation will not cover everything in z/OS V1R11 Communications Server, and it will not get into too much detail. The intention is to provide an overview of the new functions in z/OS V1R11.

This presentation will start by providing an overview of the themes in z/OS V1R11 Communications Server.

The themes are listed on the agenda page, and the presentation is structured based on those themes.



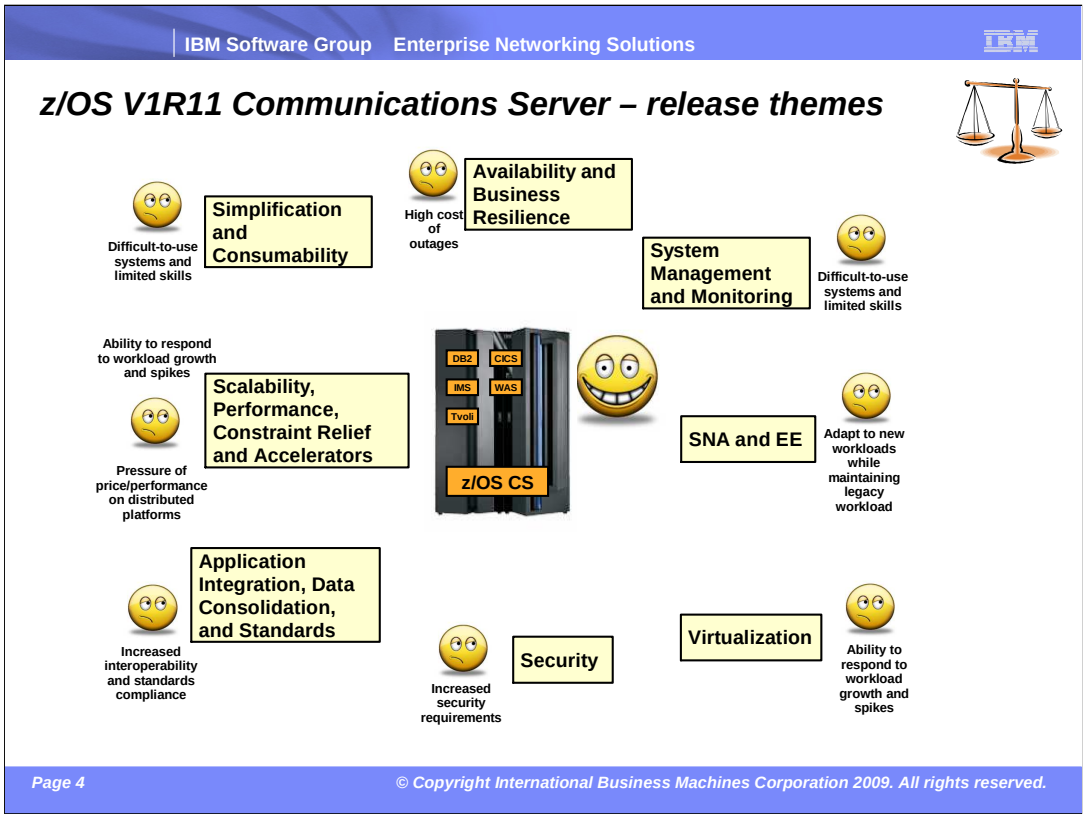
In selecting the release content, the z/OS Communications Server planning group draws upon several requirement sources. These sources fall roughly into four groups:

The first group is direct input from customers and business partners including vendors – external requirements databases, SHARE, Guide-SHARE-Europe, customer councils, customer contacts at conference events or face-to-face meetings, and so forth. This group is in general given a high priority when selecting requirements that fit within the release themes.

The second group of requirements comes from other software products within IBM Software group (SWG). Most other software products on z/OS today depend on network connectivity. Requests for improved performance, increased scalability, and new functions are abundant. Often these requirements are of significant importance to these other IBM products from a competitive perspective.

The third group of requirements is for the IBM System z hardware and operating system. If a new OSA adapter comes out or a new function is added to OSA, it almost always means a change within the lower layers of the Communications Server.

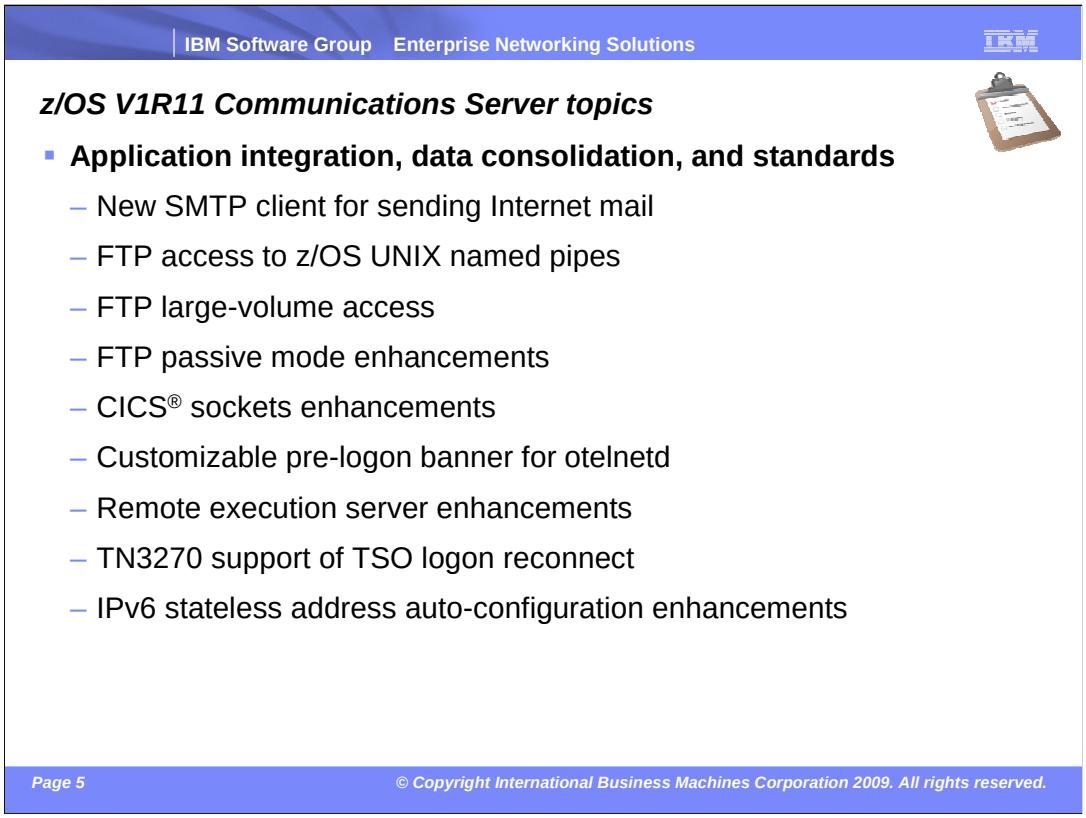
The final group of requirements are the standards-related requirements. Networking is based on open standards. To ensure a continued interoperability with other platforms and operating systems, z/OS Communications Server must follow the standards community and implement new or changed support as required. This is especially true within the emerging IPv6 standards area, where many changes continue to be introduced.



In determining the release themes, the z/OS Communications Server team identifies a set of generic, high-level areas of business concerns that describe the situation most of the z/OS customers are in. z/OS customers need a secure, resilient system that is easy to use, is able to adapt to growing workloads, and supports existing and new applications.

Based on these business concerns, the team identifies the areas of the z/OS Communications Server where changes are needed to assist in addressing some of these business concerns. As the text underneath each of the small ‘unhappy’ faces suggest, there are specific concerns associated with each of the themes as defined in the boxes on this slide.

The release themes are coordinated with the other elements of z/OS, apart from a few that are networking-specific, such as SNA and EE.



This slide and the next slides introduce the individual themes and list the specific enhancements that are included in z/OS V1R11 Communications Server to support that theme.

On this slide, you have the **Application integration, data consolidation, and standards theme** (part one).

As you might envision, this theme includes enhancements to the standard TCP/IP applications that come with z/OS Communications Server, and support for new and changing standards, such as IPv6.

z/OS V1R11 Communications Server topics (continued)

- **Application integration, data consolidation, and standards (continued)**
  - New API to obtain IPv4 network interface MTU
  - RFC 5095 deprecation of IPv6 type 0 route header

On this slide, you have the remaining enhancements in the **Application integration, data consolidation, and standards** theme.

z/OS V1R11 Communications Server topics (part 2/6)

Availability and business resilience

- OMPROUTE detection of duplicate router ID
- Improved responsiveness to storage shortage conditions
- Protection from run-away applications
- Disable moving DVIPA as source IP address
- Support for enhanced WLM routing algorithms

This slide lists the enhancements in the **Availability and business resilience** theme.

These enhancements address availability and resilience objectives. This group of enhancements improve robustness and self-healing (autonomic) characteristics of z/OS Communications Server.

z/OS V1R11 Communications Server topics (continued)

- **Scalability, performance, constraint relief, and accelerators**
  - accept_and_receive API enhancements
  - TCP/IP support for system z10 hardware instrumentation
  - TCP/IP path length improvements
  - Virtual storage constraint relief
  - TCP throughput improvements for high-latency networks
  - Resolver DNS cache
  - NSS private key and certificate services for XML appliances
  - Sysplex autonomics improvements for FRCA
  - QDIO accelerator

The theme on this slide is **Scalability, performance, constraint relief, and accelerators** – a popular theme as you can see based on the number of enhancements that fall into this theme.

This them includes performance enhancements through new APIs, a system resolver cache function, and several other enhancements.

Constraint relief is achieved through virtual storage constraint relief (VSCR) – moving some sockets control blocks up into 64-bit common.

Accelerators improve the way IP routing is done between QDIO and iQDIO network interfaces.

z/OS V1R11 Communications Server topics (continued)

- **Scalability, performance, constraint relief, and accelerators (continued)**
  - Sysplex Distributor connection routing accelerator
  - Sysplex Distributor optimization for multi-tier z/OS workload
  - Sysplex Distributor support for DataPower®

Continuing on this slide is the theme of **Scalability, performance, constraint relief, and accelerators**.

Scalability is enhanced in the Sysplex Distributor technology – distributing TCP connections coming into a sysplex.

z/OS V1R11 Communications Server topics (continued)

- **Security**
  - IPSec enhancements
  - AT-TLS enhancements

The **security** theme in z/OS V1R11 Communications Server improves the IKEv1 implementation and upgraded support by AT-TLS for a range of new System SSL functions, such as support for the TLSv1.1 protocol.

z/OS V1R11 Communications Server topics (continued)

- **Simplification and usability**
  - Removal of NDB, DHCP Server, BINL, and BIND 4.9.3
  - Syslogd enhancements
  - Syslogd browser and search facility
  - Policy infrastructure management
  - MVS console support for selected TCP/IP commands
  - Configuration Assistant - AT-TLS and IPSec improvements
  - Configuration Assistant - policy infrastructure simplification
  - Configuration Assistant - AT-TLS functional currency

The **simplification and usability** theme in this release addresses the overall usability of the networking policy infrastructure.

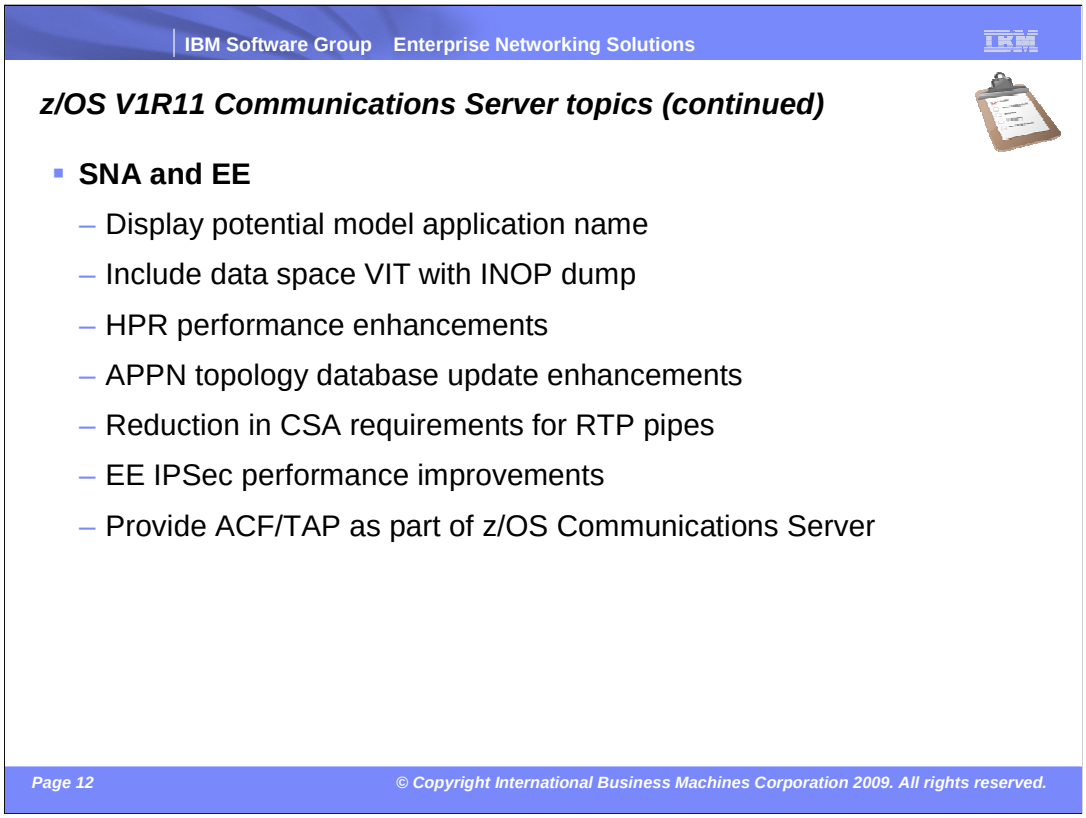
You can set it up through the Configuration Assistant.

The second enhancement is automated syslogd archival.

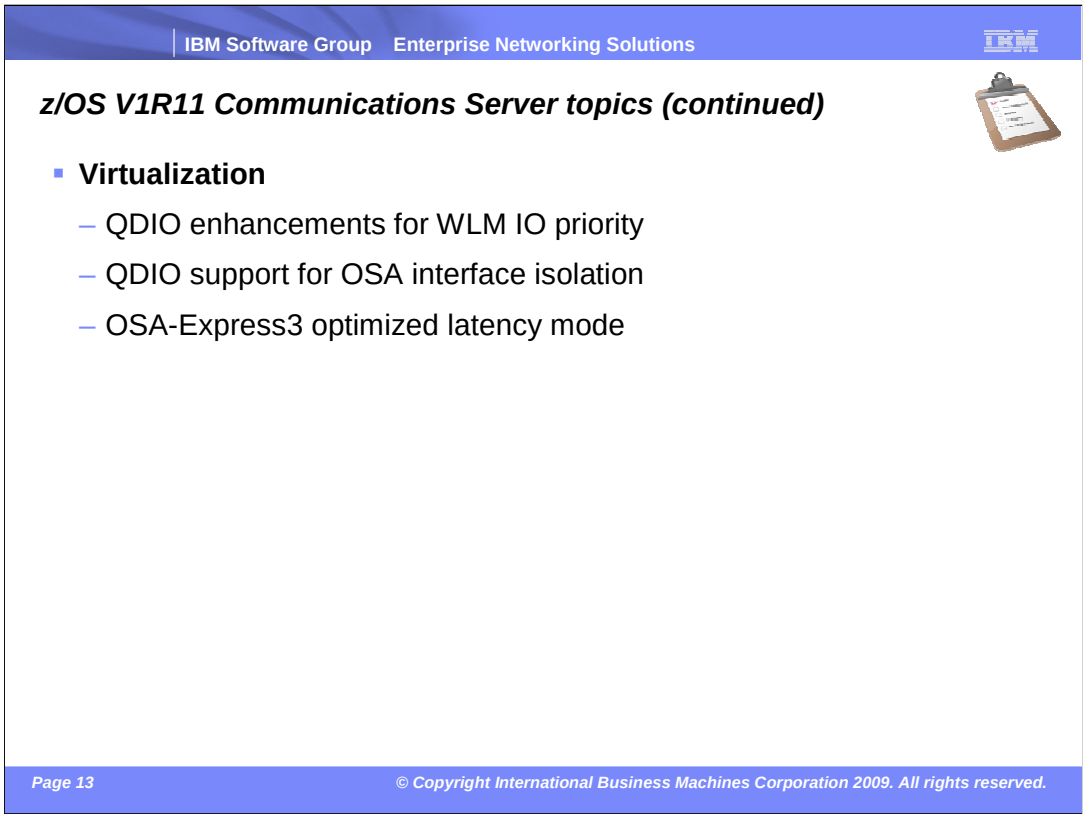
The third enhancement is the ISPF browser interface to syslogd files and archive data sets.

The fourth enhancement is starting and monitoring the various policy-related components from one central point (the Policy Agent).

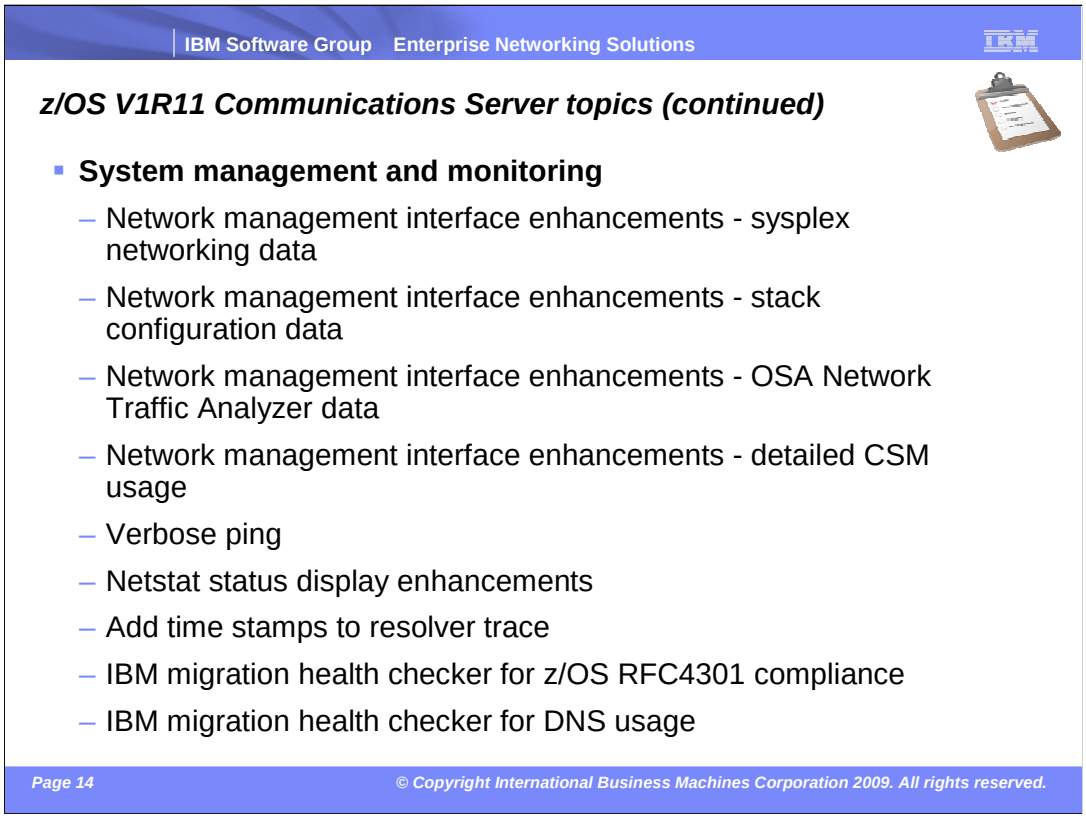
All of these enhancements aim at making it easier to get started with the networking policy functions on z/OS.



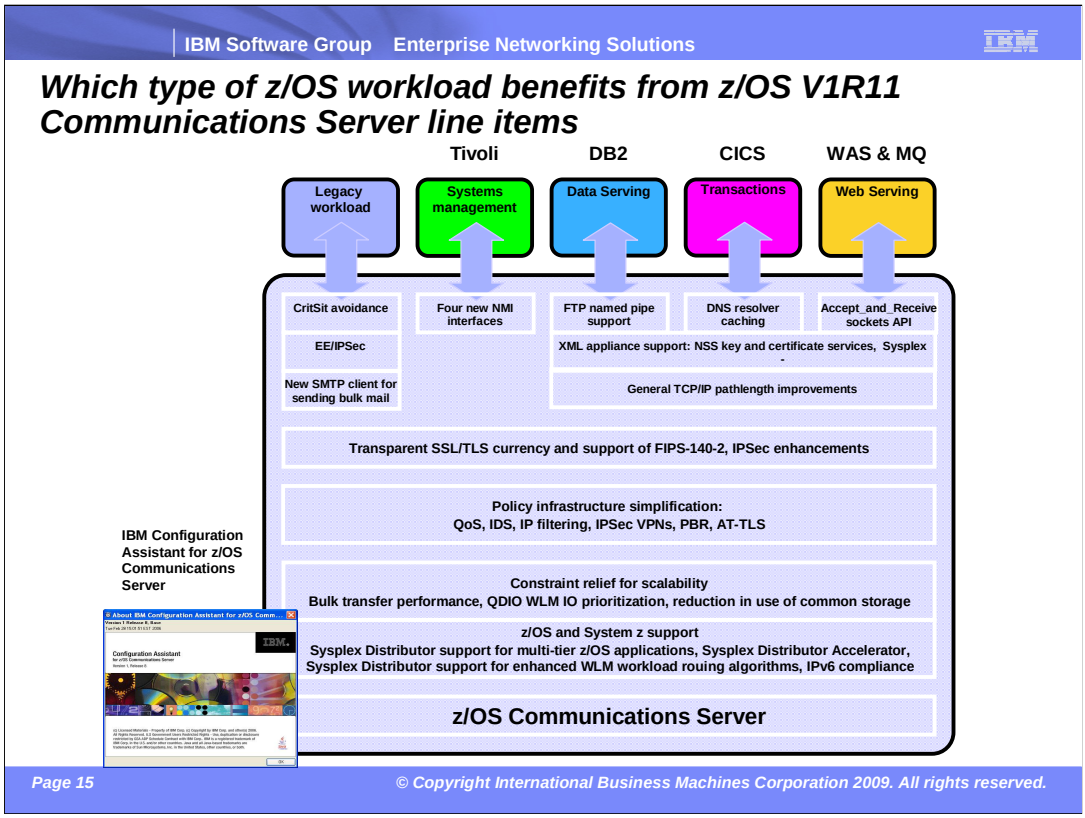
As always, there are enhancements to **SNA and EE**. The main enhancement in this release is a new high performance routing adaptive rate-based protocol that addresses performance issues seen in environments where distributed platforms are implemented in virtualized systems.



For the **virtualization** theme, z/OS Communications Server provides a simple mechanism that allows installations who do not use QoS networking policies to set QDIO outbound queue priority. This new mechanism allows you to extend the WLM importance level of the application that sends data to the selection of QDIO outbound queue.



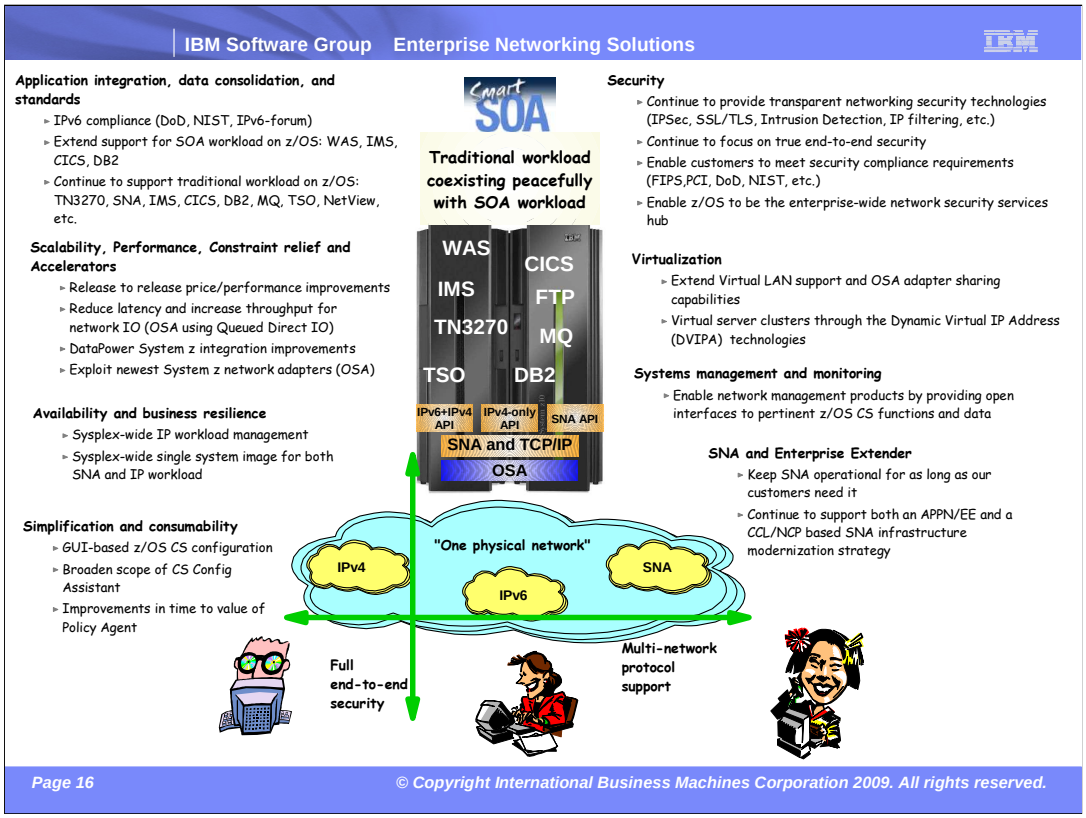
Systems management and monitoring delivers a significant set of new network management interfaces (NMI) to provide network management software from Tivoli® and other vendors better insight into z/OS Communications Server.



This presentation has a long list of enhancements to the z/OS V1R11 Communications Server. The main objective of this presentation was to give you an introduction to the new capabilities of z/OS V1R11 Communications Server. This presentation has by no means explained all the bells and whistles. However, you should now have an overview of the functions being delivered in z/OS V1R11 Communications Server.

Some of the enhancements are included as the result of direct customer requirements. Others aim at providing improvements in performance and functions for other z/OS software components, such as DB2®, WebSphere® Applications Server, and CICS.

This slide gives you a quick overview of how some of the enhancements are meant to provide you with indirect benefits if you use these other IBM software products on z/OS. There are improvements aimed directly at Tivoli products, DB2, CICS, WebSphere Application Server, and MQ.



This slide refers back to the z/OS V1R11 Communications Server release themes that were defined early in this session. Those themes will continue to be important to the Communications Server in releases that follow, where the overall objectives can be summarized as:

To provide a high performance, scalable, highly available, standards-compliant, and manageable set of communication services. This includes SNA, IPv4, and IPv6 networking services. This also includes programming interfaces for z/OS new SOA workloads and traditional workloads (such as, CICS, IMS, DB2) supporting network security standards and exploiting the strength of the System z hardware platform.

For more information

URL	Content
http://www.ibm.com/servers/eserver/zseries	IBM eServer zSeries Mainframe Servers
http://www.ibm.com/servers/eserver/zseries/networking	Networking: IBM zSeries Servers
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http://www.ibm.com/support/techdocs/	Technical support documentation (techdocs, flashes, presentations, white papers, etc.)
http://www.rfc-editor.org/rfcsearch.html	Request For Comments (RFC)

This slide shows some of the IBM Web pages with more information about z/OS Communications Server.

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