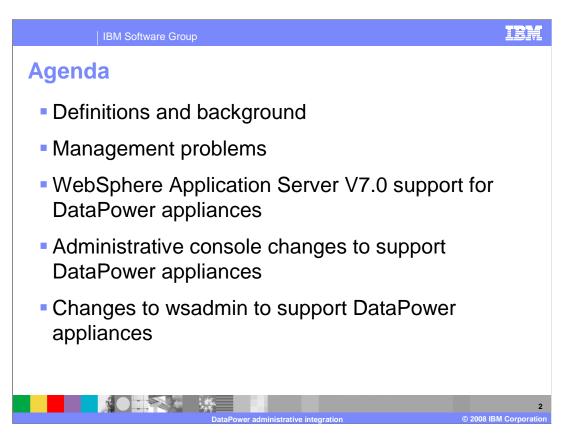
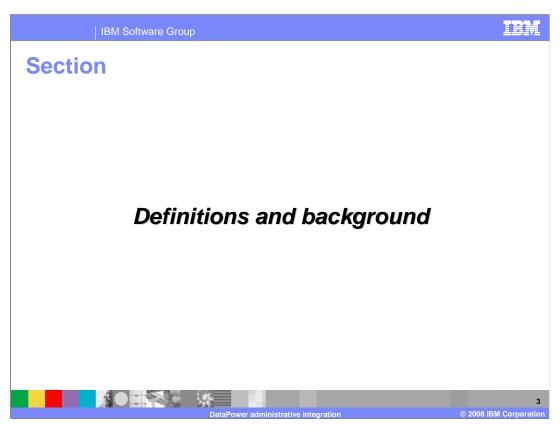


This presentation describes the integration of DataPower management functions into WebSphere Application Server version 7.0. This new feature allows the management of DataPower appliances to be performed using the administrative tools of WebSphere Application Server version 7.0.



This presentation starts with a review of some definitions and discusses the background of DataPower appliances. It will look at some of the problems that have existed when these appliances were brought into a WebSphere Application Server environment. Next is a discussion of how the appliances are supported in WebSphere Application Server V7 and a look at changes made to the WebSphere Application Server administrative console and the scripting program, wsadmin, to integrate support for DataPower appliances.



This section reviews some definitions and provides a high level description of IBM DataPower appliances.

Many new technologies depend on the Extensible Markup Language, commonly called XML. XML provides the power and flexibility needed to support these technologies but tends to require significant development skills. Additionally, the processing of XML documents can be onerous. It soon became apparent that reducing the skill levels required by developers to handle XML data and the ability to process this data faster would make movement to some of the new services like Web services and SOA easier and, to this end, dedicated devices known as appliances were developed. DataPower developed the world's first SOA appliance in the early 2000's.

A DataPower SOA appliance is a physical device with specific functions to simplify and accelerate the processing of certain messages. These functions simplify and accelerate development by reducing the need for some in-house SOA and XML skills.

Because of the key role these appliances play in processing XML, they are specifically built with an emphasis on security and reliability. The specialized hardware and software in the appliances can greatly improve performance in areas like encryption and XML processing. The developer can use the functions in the appliances without needing all the in-depth knowledge of XML that would otherwise be required.

Since the appliances are specialized, they integrate many functions in a single box.



Each of IBM's DataPower devices has a general theme. The XA35 model focuses on XML processing such as XSLT transforming. The XS40 model focuses on security including protecting your Web services from XML based attacks; it also handles some of the routing that is needed in a message based environment.

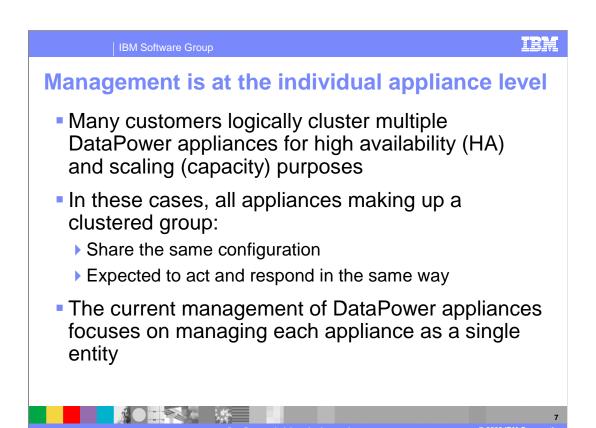
The XI50 is basically an appliance based Enterprise Service Bus, commonly called ESB. It supports transformation of messages, bridges multiple protocols, handles routing and integrate message level security.

The emphasis across the product is ease of use and the ability to get these boxes up and running in an absolute minimum of time.

Each higher level appliance contains all the functions contained in lower level appliances. For example, in addition to the new security functions that it supports, the XS40 contains all the function of the XA35 model. Similarly, the XI50 appliance supports all the function of the XS40 model in addition to the specialized function of the XI50.

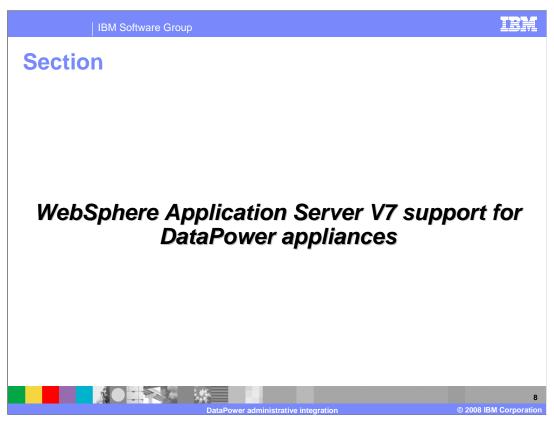


This section describes some of the administrative problems associated with DataPower appliances that were addressed in version 7.0 of WebSphere Application Server.



Before the introduction of management support for DataPower appliances in WebSphere Application Server version 7, management of DataPower appliances focused on managing each appliance as a single entity. Many topologies logically cluster multiple appliances for purposes of scaling and high availability. In these clusters, all appliances tend to share the same configuration and are expected to behave similarly.

Treating each appliance as a single entity required you to manage each one separately.



This section describes changes made to WebSphere Application Server V7 to support DataPower appliances.

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## **V7** features

- DataPower appliances can now be managed using the WebSphere Application Server management tools (administrative console, wsadmin)
- Ability to create a managed set of DataPower appliances
  - All appliances in the managed set have common firmware settings, managed domains, and sharable appliance settings (example, NTP settings)
- Common experience between management of WebSphere Application Server resources and management of DataPower appliances

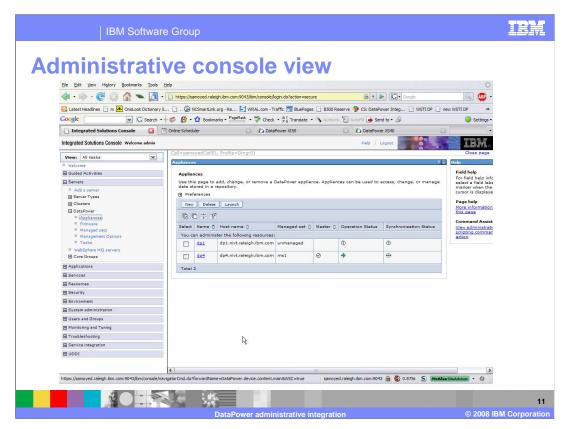


In WebSphere Application Server V7, DataPower appliances can now be managed using the standard WebSphere Application Server administrative tools like the administrative console and wsadmin. This results in a common user experience between the management of WebSphere Application Server resources and DataPower appliances.

Additionally, you have the ability to group multiple appliances into a managed set. The managed set can then be treated as a single entity. All appliances in the managed set have common firmware settings, managed domains, and sharable appliance settings.

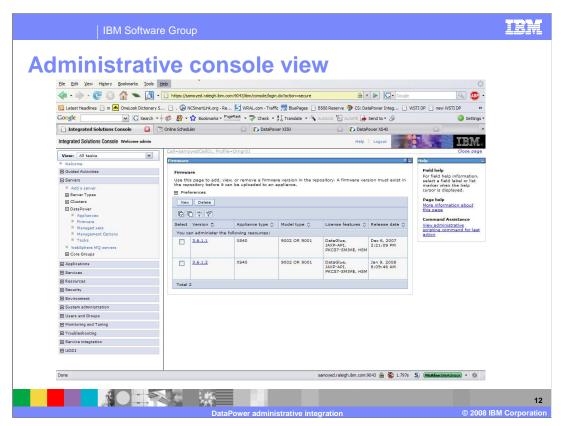


This section shows how to access the DataPower management functions from the WebSphere Application Server V7 administrative console.

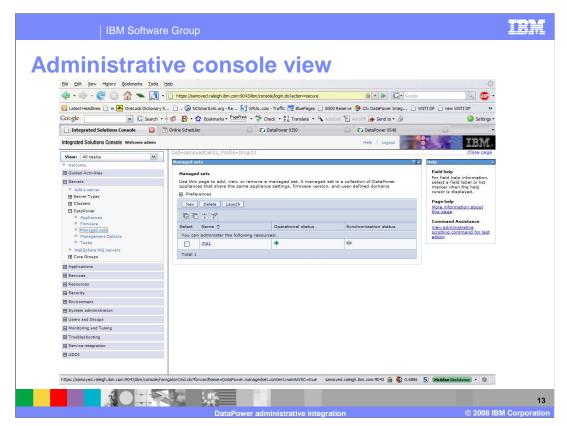


The DataPower appliance manager runs on the deployment manager. To access the DataPower administrative functions, expand Servers, then DataPower in the left column of the page.

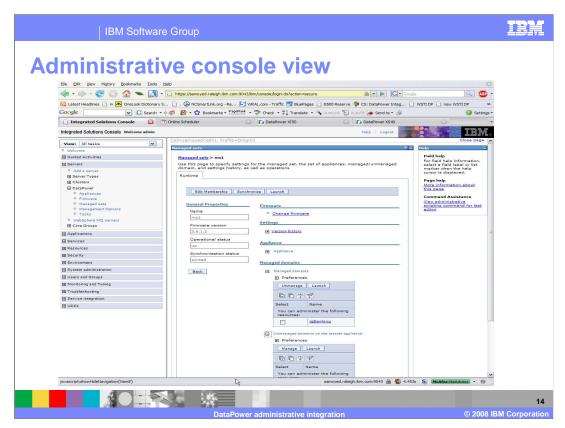
The Appliances panel lists the appliances that are being managed in this environment.



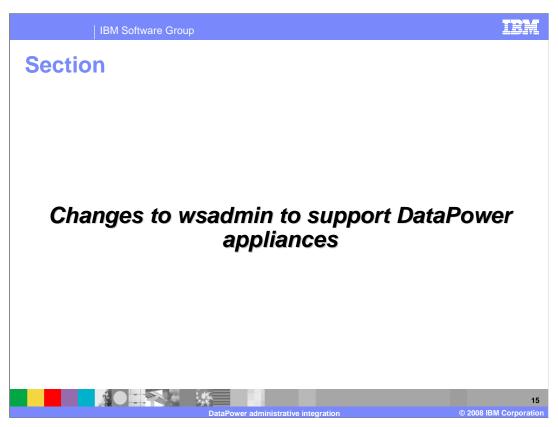
From this panel, you can add, view, or remove a firmware version from the DataPower appliance manager. A firmware version must exist in the DataPower appliance manager before it can be distributed to the appliances in a managed set.



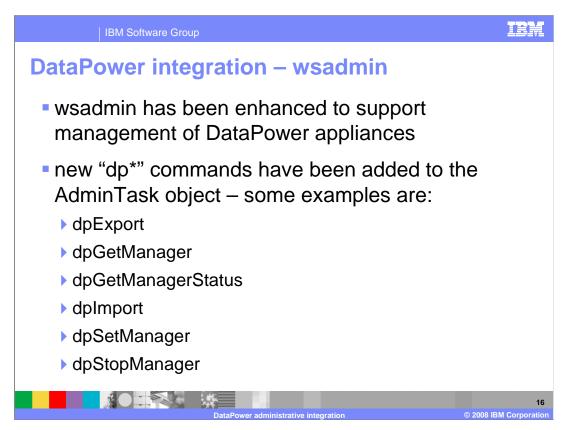
Use this page to add, view, or remove a managed set. A managed set is a collection of DataPower appliances that share the same appliance settings, firmware version and managed domains.



Use this page to specify values for the managed set, such as the appliances that are part of the set and shareable appliance settings.

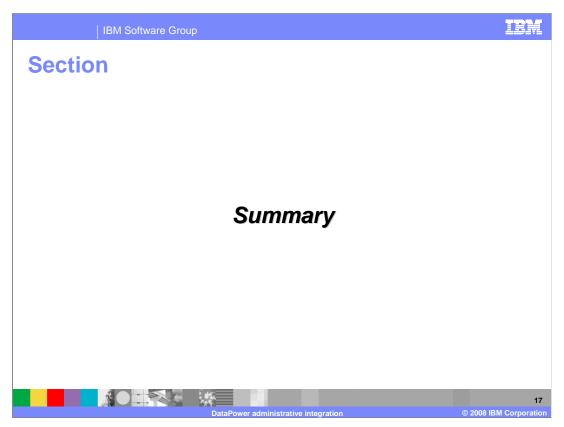


This section shows how to access the DataPower administrative functions from the WebSphere Application Server version 7.0 wsadmin program.

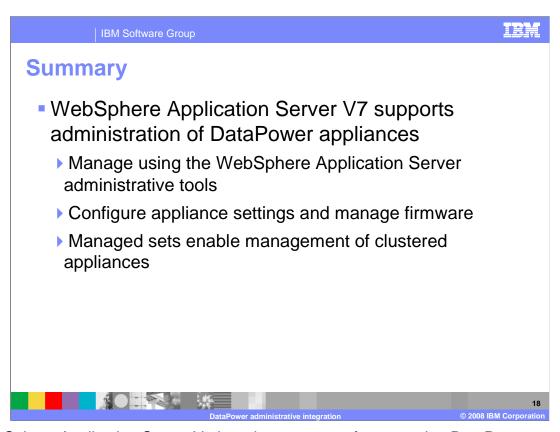


For those users that need programmatic access to manage DataPower appliances, the wsadmin program of WebSphere Application Server version 7.0 has been enhanced to provide this support. The mechanism for doing this is the addition of several new commands to the AdminTask object used by wsadmin. These new commands are recognizable by the first part of the command name which is "dp". Some examples of the commands are: dpExport, dpGetManager, and dpGetManagerStatus.

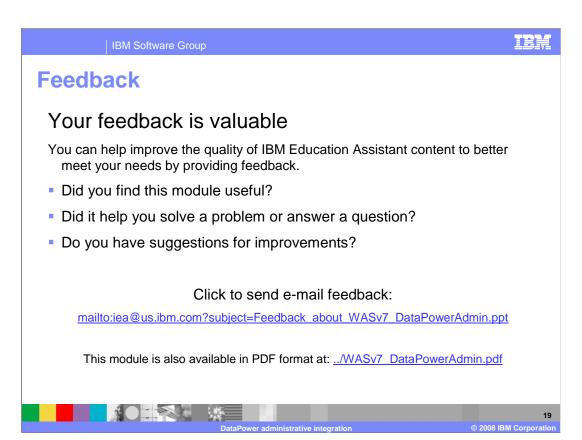
The Information Center of the WebSphere Application Server version 7.0 contains very complete and useful information related to wsadmin and programmatically managing DataPower appliances.



This section will summarize the presentation.



WebSphere Application Server V7 introduces support for managing DataPower appliances using WebSphere Application Server's management tools, including the administrative console and wsadmin. You can configure appliance settings, and update the appliance's firmware using these tools. You can also create "managed sets" which let you use a single configuration for a group of DataPower appliances.



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DataPower administrative integration

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