# *XDATA*

Bill Keech

Sunbelt Computer Systems

# *XDATA OVERVIEW*

- **What IS XDATA?**
- **XFILE Differences**
- **Document Object Model**
- **What is JSON?**
- **Node Types**
- **Advanced Features**

# *What IS XDATA?*

- **Static PL/B object (No CREATE)**
- **No properties or events**
- **Exists in all PL/B runtimes**
- **Creates a Document Object Model tree**

# *What IS XDATA?*

- **Can be used to create and consume HTML pages**
- **Can be used to create and consume SOAP messages**
- **Can be used to create and consume JSON**

# *XFILE Differences*

- **No XML schema support**
- **No automatic ordering**
- **Uses methods instead of FILE I/O syntax**

# *XFILE Differences*

- **Supports JSON**
- **Supports multiple text areas in an element**

# *Document Object Model*

- **Data is stored in a tree structure**
- **Top node is called the document.**
- **Every node, except the document, has exactly one parent node**
- **A node can have any number of children**

# *Document Object Model*

- **A leaf is a node with no children**
- **Siblings are nodes with the same parent**
- **Methods are used to create, delete, replace, and inquire on the nodes**
- **Every node has a position that can be obtained**

# *What is JSON?*

- **JavaScript Object Notation**
- **A set of name/value pairs separated by commas**
- **All enclosed in a set of curly braces**
- **Names are always quoted**
- **Values can be arrays, objects, strings, numbers, booleans, and null**

# *What is JSON?*

- **Numbers can be integers or doubles**
- **Strings values are quoted**
- **Curly braces hold objects**
- **Square brackets hold arrays**
- **{ "firstName":"John" }**

# *Node Types*

- **Document node represents the entire document**
  - **No representation in JSON or XML**

- **DocumentType node represents the document type**
  - **No representation in JSON**
  - **XML representation**

**<!DOCTYPE name PUBLIC "pubid" "sysid">**

# *Node Types*

- **ProcessingInstruction node represents processing information**
  - **No representation in JSON**
  - **XML representation is <?target data?>**
- **Element node represent a collection of information**
  - **JSON representation is "label":**
  - **XML representation is <label></label>**

# *Node Types*

- **Attribute node represents a label/value pair**
  - **JSON representation is "label": value**
  - **XML representation is label="value" inside an element tag**

- **Text node represents textual content in an element**
  - **JSON representation is value based on the JSON type**
  - **XML representation is the actual text**

# *Node Types*

- **Comment node represents comment**

  – **No representation in JSON**

  – **XML representation is <!-- comment -->**

# *Advanced Features*

- **Feature rich positioning system**

- **FindNode uses common FILTER matching features**

```
xData.FindNode GIVING result:
USING *FILTER="jsontype=2 AND label LIKE '%ray%'":
*POSITION=START_DOCUMENT_NODE
```

# *Advanced Features*

- **Data can be stored/loaded from DIMs**
- **Common return value set**

# *Sample Programs*

- **'xdatahtml.pls' generates a HTML page**
- **'xdatasoap.pls' generates a soap message and decodes the result**
- **'xdatajson.pls' builds a JSON object**
- **'xdatashow.pls' displays a JSON object as a tree**
- **'xdatashowx.pls' displays an XML file as a tree**

# *That's All!!*