

The logo for PESC (Professional Education Support Council) features the letters 'PESC' in a bold, white, sans-serif font, centered within a red rounded rectangular background.

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**FOR THE COMMUNITY, BY THE COMMUNITY
IN SUPPORT OF STUDENT ACHIEVEMENT**

On the left side of the slide, there are two overlapping curved shapes. The top one is a dark teal semi-circle, and the bottom one is a lighter teal semi-circle, both extending from the left edge towards the center.

Technical Advisory Board

JSON Initiative



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Quotes that I live by

- “I would never die for my beliefs because I might be wrong.”
- “To die for an idea: it is unquestionably noble. But how much nobler it would be if men died for ideas that were true.”
- “It's tough to make predictions, especially about the future.”
- “The older I grow the more I distrust the familiar doctrine that age brings wisdom.”
- “There are no solutions, only trade-offs”



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JavaScript Object Notation (JSON)

- In use by most RESTful web services
- Can be marshaled and unmarshaled directly with JavaScript
- All major programming languages provide JSON APIs.
- JSON Schema standard supported by third party tools (XML Spy)

- Mapping difficulties: Multiple solutions
 - `<e attr="value"/>`
 - `<e>text</e>`
 - `<e attr="value">text</e>`
 - `<e>text</e>`
 - `<e>texttext</e>`
- JSON Schema is not a W3C standard
- Security Standards are not defined (https only)



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TAB Activities

- Open Source (BSD license) XSLT modified to translate XML instance documents into JSON. Set of flags for different formats
- XSLT to translate XML Schema to JSON Schema
 - Missing Features: choice mapping, documentation (description), code definition



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TAB JSON Original Recommendation 2015

- PESC will recognize that a JSON message exchange conforms to PESC standards:
 - If the JSON instance was derived from a PESC schema validated XML instance document, and the transformation uses PESC specified transformation rules
- When JSON has a recognized schema approach, PESC can then provide direct standards for JSON



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Questions for Task Force

- Is there a need to exchange education information in JSON format?
- Should PESC provide a translation standard between JSON and XML?
- Should we add the additional linking support of JSON-LD?
- Should exchange definitions include RESTful web service definitions as part of the standard or use EdExchange



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Possible approaches (trade-offs)

- XSLT from valid XML instance to JSON instance
- XSLT to transform XML Schema to JSON Schema
- JSON Schema from scratch using PESC specification
- JSON-LD implementation
- Swagger or other web service specification for web service definition
- AI “interlingua” for future dialects

Goessner Notation (A4L)

Pattern	XML	JSON	Access
1	<code><e/></code>	<code>"e": null</code>	<code>o.e</code>
2	<code><e>text</e></code>	<code>"e": "text"</code>	<code>o.e</code>
3	<code><e name="value" /></code>	<code>"e":{"@name": "value"}</code>	<code>o.e["@name"]</code>
4	<code><e name="value">text</e></code>	<code>"e": { "@name": "value", "#text": "text" }</code>	<code>o.e["@name"] o.e["#text"]</code>
5	<code><e> <a>text text </e></code>	<code>"e": { "a": "text", "b": "text" }</code>	<code>o.e.a o.e.b</code>
6	<code><e> <a>text <a>text </e></code>	<code>"e": { "a": ["text", "text"] }</code>	<code>o.e.a[0] o.e.a[1]</code>
7	<code><e> text <a>text </e></code>	<code>"e": { "#text": "text", "a": "text" }</code>	<code>o.e["#text"] o.e.a</code>



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Example PESC JSON

```
{
  "TransmissionData": {
    "DocumentID": "12345CV",
    "CreatedDateTime": "2016-02-29",
    "TransmissionType": "Resubmission",
    "DocumentTypeCode": "Application",
    "Source": {},
    "Destination": {},
    "NoteMessage": [
      "First Message", "Second Message"
    ]
  }
}
```



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Task Force Activities

- Set up meeting time with Doodle
- Review each possible approach and determine viability
- If multiple or phase solutions, lay out an implementation plan

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Questions

