

Ford Motor Company



XML Strategy Update

Session Code: 14J

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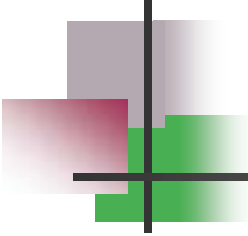
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What is Ford Motor Company doing with XML?



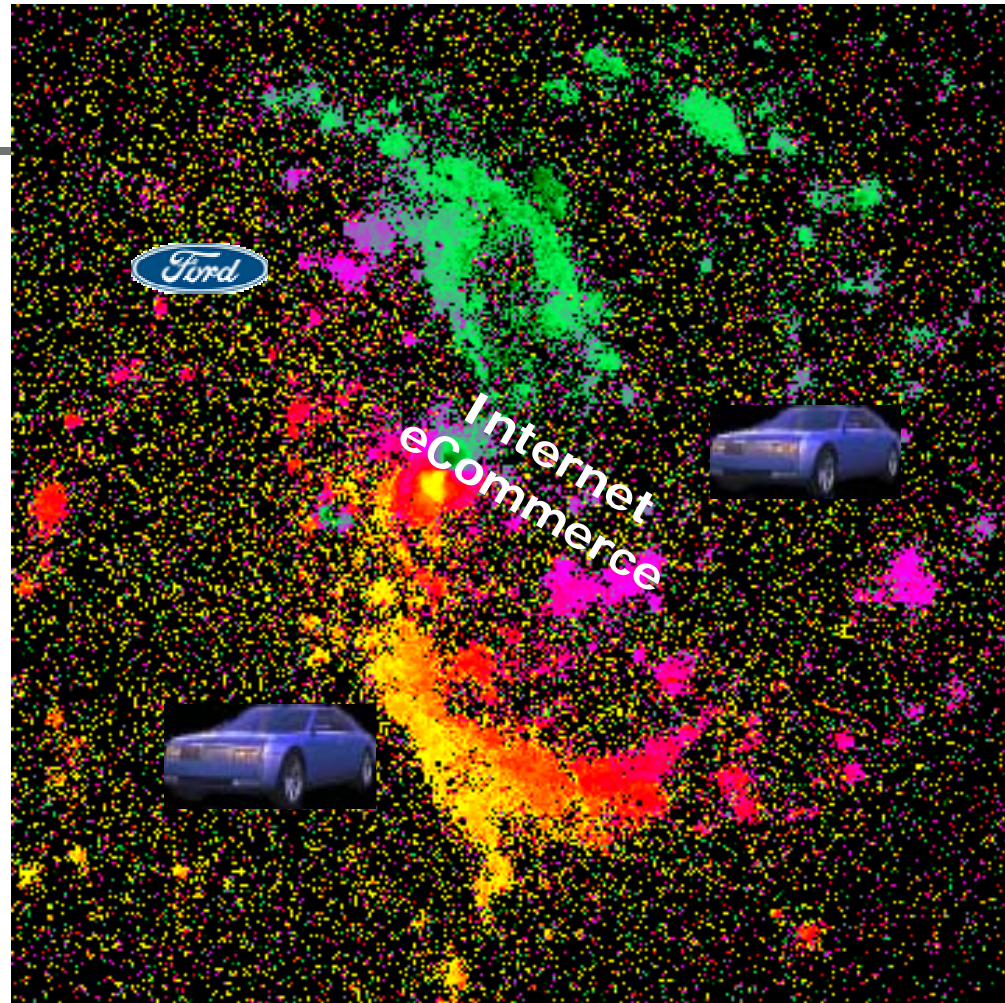
- Why do we use XML?
- What are the benefits?
- Which XML standards do we implement?
- What do trading partners do to connect to Ford systems using XML?
- What about EDI?

Why XML?

Application integration.

- Integration requirements continue to grow: number of applications, devices, companies to integrate together.
- Without a consistent way to do integration, we will have chaos and rapidly growing cost.
- XML technology offers us (and everyone) a consistent way to do integration.

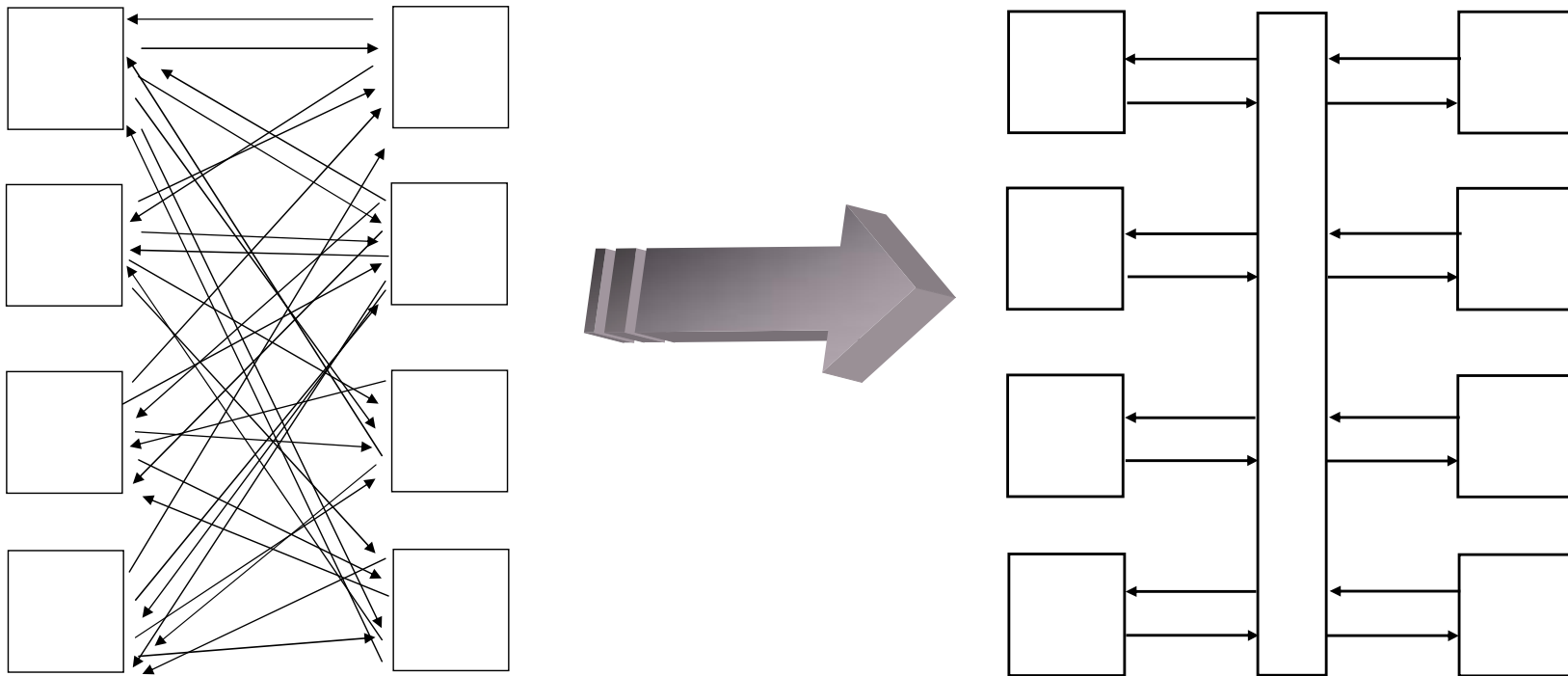
Application integration on a massive scale.



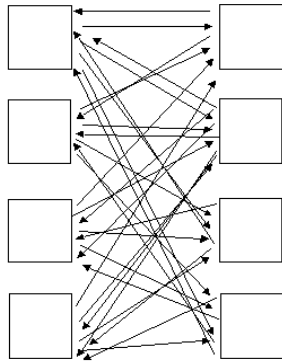
The enterprise interoperates with the web eCommerce at the center.

Two ways to integrate applications.

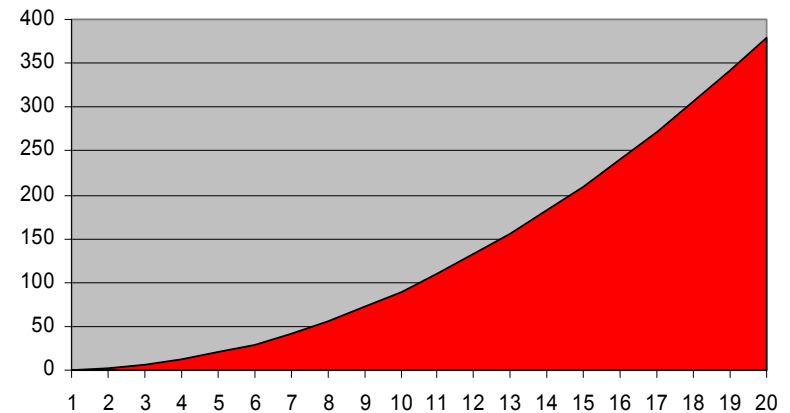
From <many to many> to <many to one>



The expensive way: point-to-point custom many-to-many interfaces.

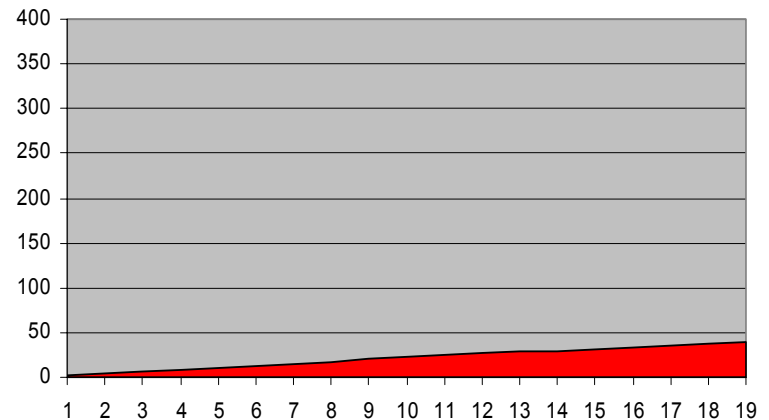
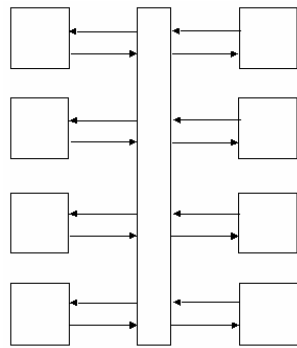


<many to many> growth



\$3.8 million per year to maintain integration bridges between 20 applications. Accelerating growth in expense as number of applications grows.

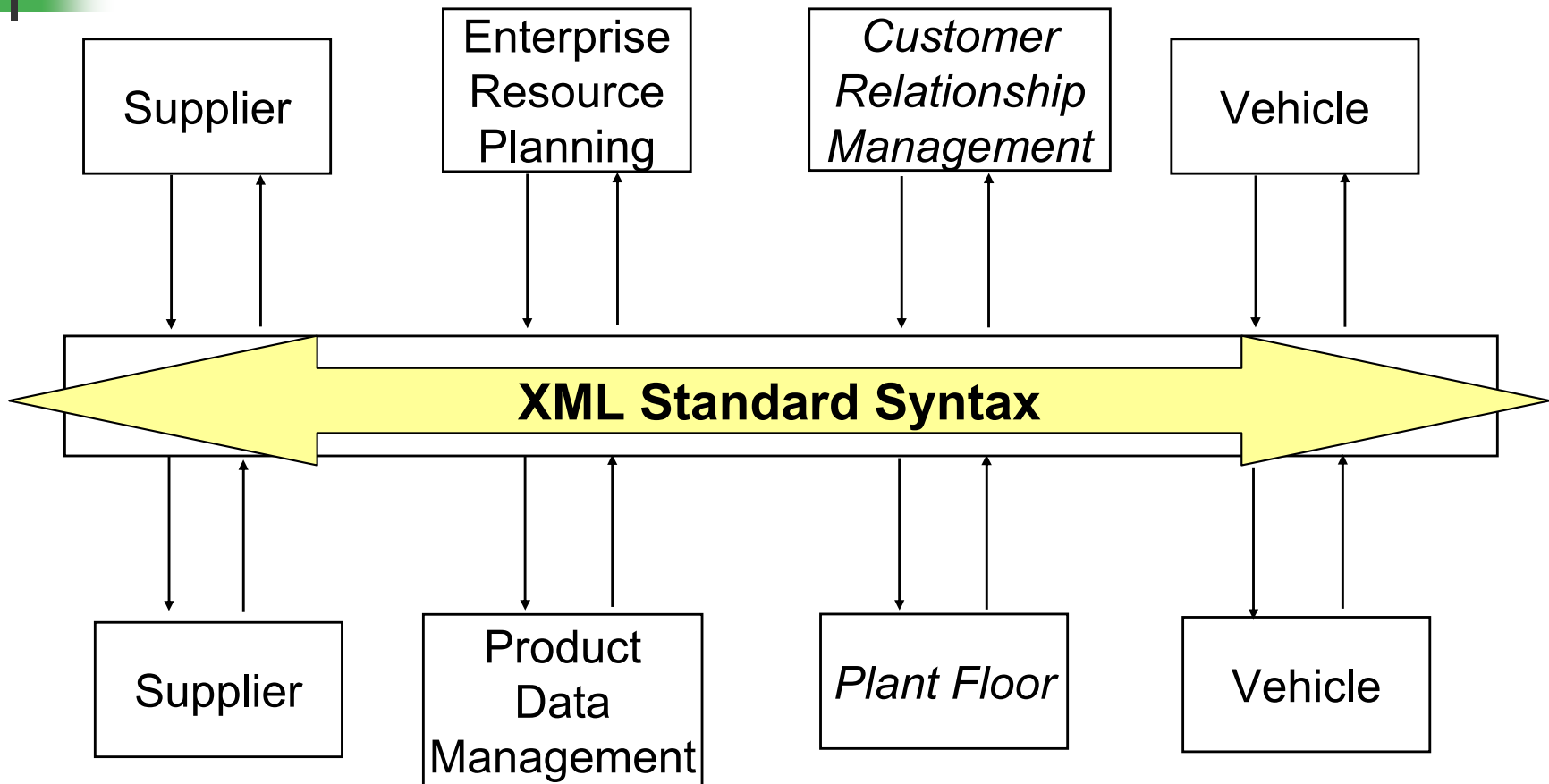
The affordable way: standard interfaces built into the applications.



<many to one> growth

Worst case \$400,000 per year to maintain integration bridges between 20 applications. That's if you build them all yourself. Less if the interfaces come with the applications you buy. Growth in expense is manageable as number of applications grows.

XML is the standard format.





Why does XML work?

- XML is universal. If you use it, chances are that whatever you need to interoperate with also uses it.
- XML is open. Information about how to use it is free and widely available. Almost all Internet programmers know how to use it.
- The basic XML processing software is free and bundled with the computers you buy.



What benefits have we seen?

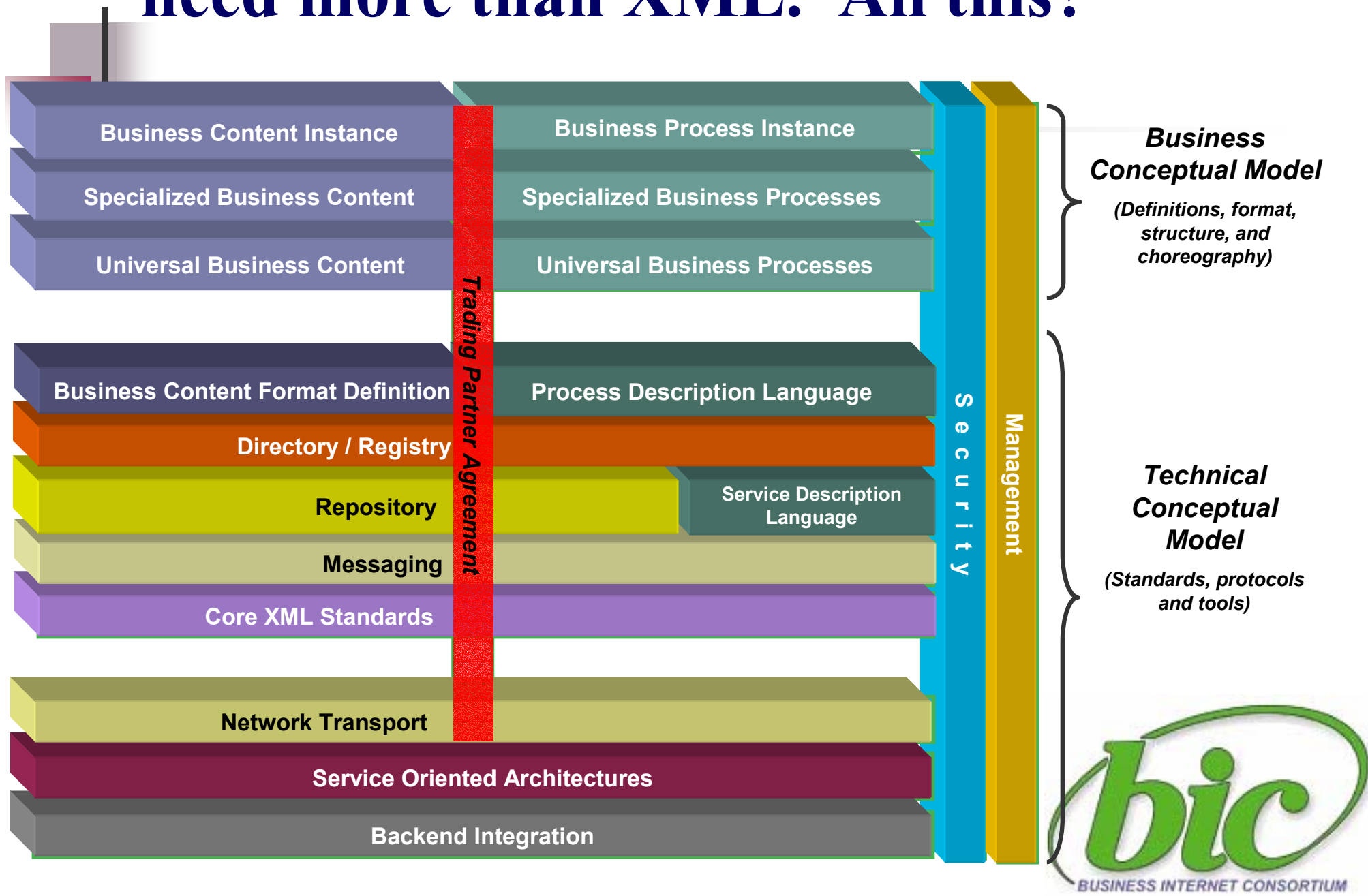
- We built XML messaging infrastructure to support one plant application's communication with data center applications, suppliers and logistics providers.
- Sized to support all plants and all parts.
- Rollout not as aggressive as planned--using only 15% of capacity.
- Under rigorous requirements for financial justification of projects, this one application, including infrastructure, has positive ROI.



Thereís moreÖ

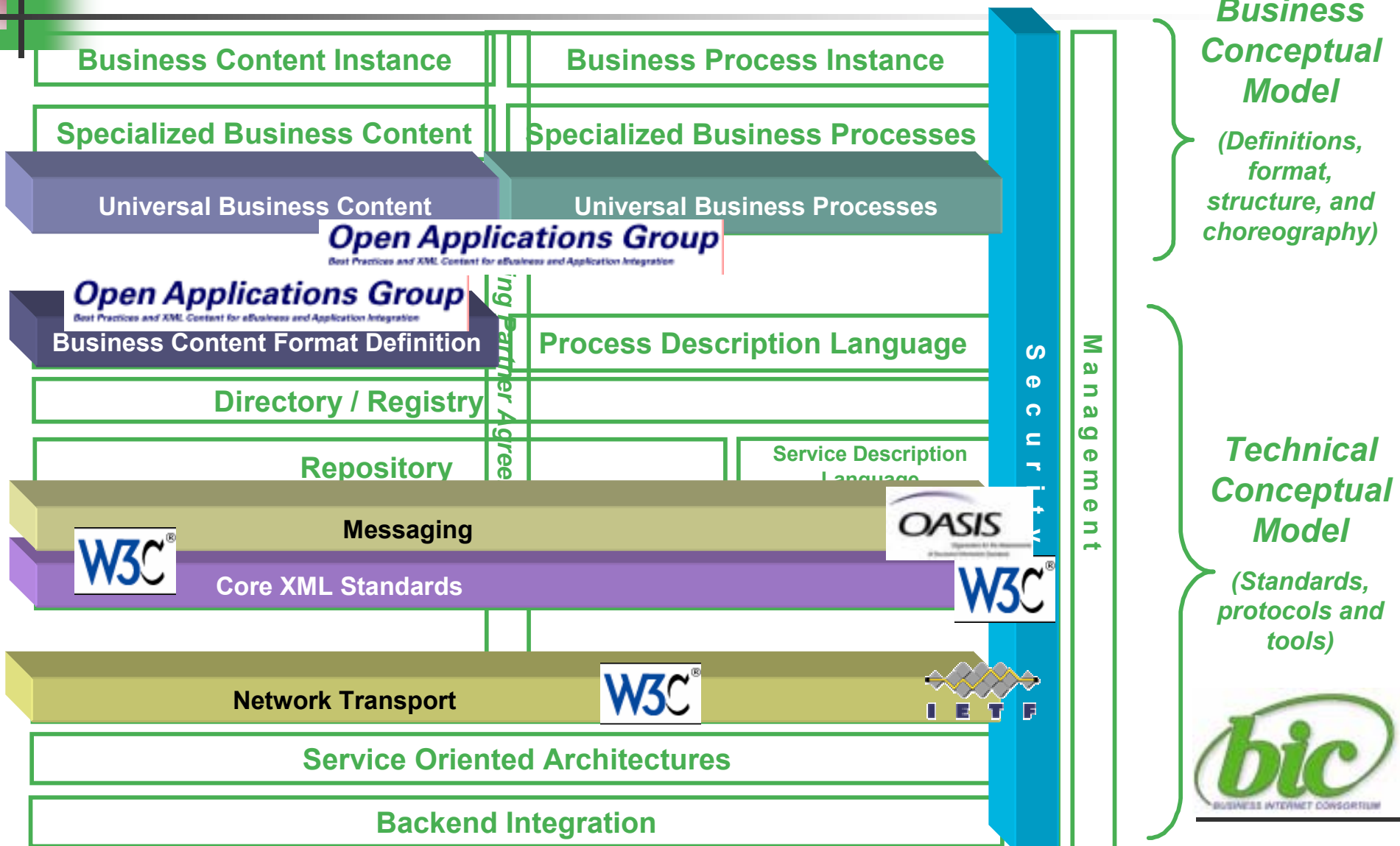
- The infrastructure has already enabled rapid deployment of several other applications.
- All the applications share the 15% of available capacity that's actually used.
- The information flows have value in themselves, which increase as more applications subscribe.

Architecture for integration ñ you need more than XML. All this?



Widely supported, usable specifications.

A few essentials, to get started.



We use Open Applications Group and W3C XML specifications.

➤ www.openapplications.org

➤ www.w3.org

- XML
- XSL
- Schema
- SOAP

➤ www.oasis-open.org

- ws-security

} Web Services

➤ Tactical solution, while SOAP 1.2 / XML Protocols / ws-security are in development: BizTalk Framework 2.0



What are suppliers doing?

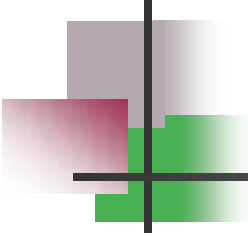
- Our objective is less expensive, simpler application-to-application near real time integration across our firewalls.
- Suppliers choose to connect using XML when all parties see mutual benefit.
- Suppliers connect using software that complies with the open standards we use.
Options:
 - Purchase integration software of their choice
 - Custom built software



What about EDI?

- Our objective is NOT to replace the EDI connections we already have in place with many of our trading partners.
- Our XML applications do things we don't do with ANSI X12 or EDIFACT style EDI formats.

What is Ford Motor Company doing with XML?



- We use XML to reduce costs of integrating applications, whether integration is between our applications or between ours and our trading partners'
- We implement Open Applications Group Business Object Documents (BODs) as payloads over Web Services
- Suppliers connect using BODs over Web Services when they see business value
- XML supplements EDI. It doesn't replace it.

