

The Next Wave

Preparing for the Next Wave

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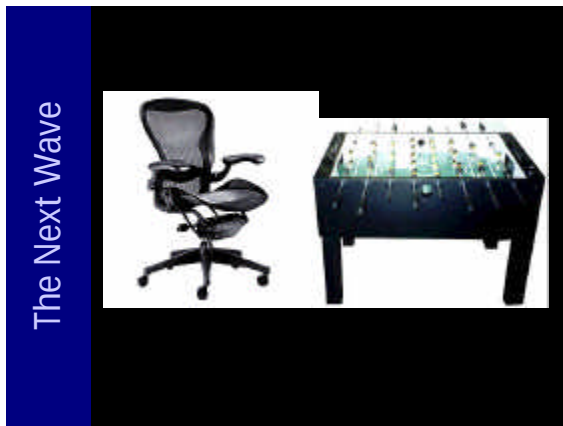


The Next Wave

Waves

- ◆ Human Capital
- ◆ Hardware and Telecom in Stasis
- ◆ Software Ascendant
- ◆ Internet Everywhere
- ◆ Wi-Fi Rolls Out
- ◆ Artificial Intelligence
- ◆ Ripples





The Next Wave

Hardware Deflation

- ♦ E Machines 900MHz Celeron PC
 - 20GB/128MB/48x/56K/XP
 - \$399.99 plus monitor
- ♦ HP Jornada Pocket PC
 - 64MB Color
 - \$649.99
- ♦ IA-54, Infiniband, HyperTransport, SANs: Storage Area Networks, Grid, Autonomous Computing

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Telecom Glut

- ♦ NextWave, Teligent, 360Networks, Covad, Excite@Home ...
- ♦ \$55B JDS Uniphase, \$20B Nortel
- ♦ Jack's House

— Cable Modem	3.2/1	\$40/mo
— Consumer DSL	1.5/1.25	\$40/mo
— Commcl DSL	1.1/1.1	\$200/mo
	5.8/2.35	\$280/mo
- ♦ ~4 T-1 lines, <\$300/mo

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Broadband Stall

- ♦ 76% of consumers aware of high speed
- ♦ 14% have high speed access at home
- ♦ Prices increasing
- ♦ Providers decreasing
- ♦ Peer-to-peer file sharing



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January 2002

- 1.19 billion broadband hours
- 1.14 billion narrowband hours
- 2.3 billion total hours

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Software Ascendant

- ♦ Hardware budgets slashed
 - CTO as IT decision maker
- ♦ Hardware margins shrinking
- ♦ IT Dissatisfaction

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Web Application Services

- ♦ IBM Websphere
- ♦ Sun ONE
- ♦ Microsoft .NET
- ♦ Lots of vendor push
- ♦ Not much user pull

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Web Application Services

- ♦ Network Software Platform
- ♦ SOAP: Simple Object Access Protocol
- ♦ UDDI: Universal Description, Discovery, and Integration
- ♦ WSDL: Web Services Description Language
- ♦ WSFL: Web Service Flow Language

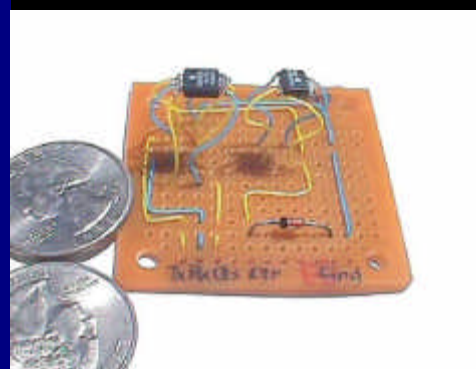


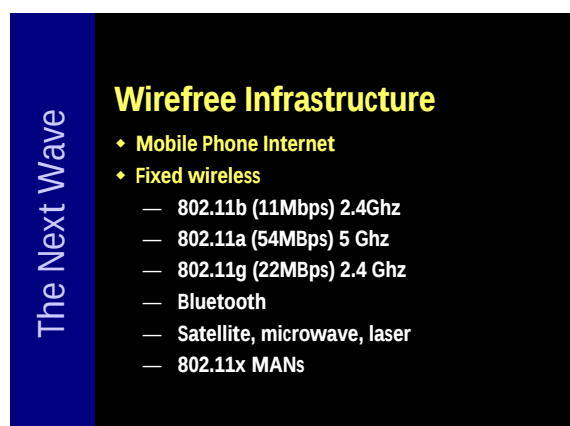
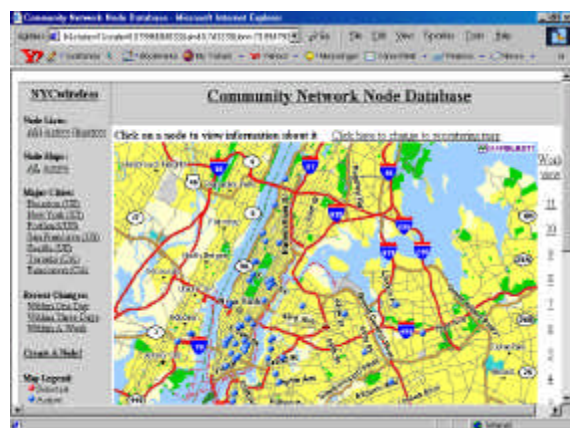
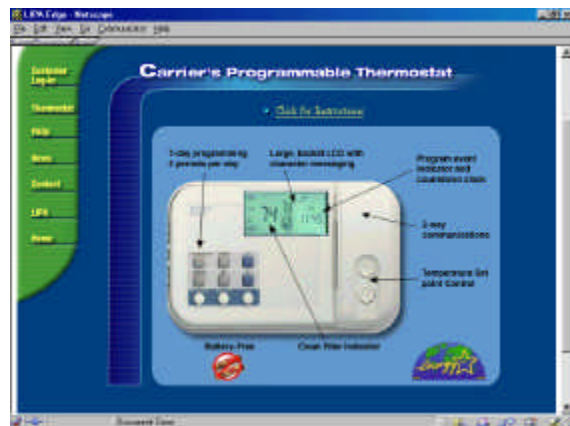
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Internet Everywhere

- ♦ Immersive IP
- ♦ The Internet Home
 - Broadband, residential gateways
 - Powerline, phonline, wireless
 - Entertainment, collaboration
- ♦ Embedded IP

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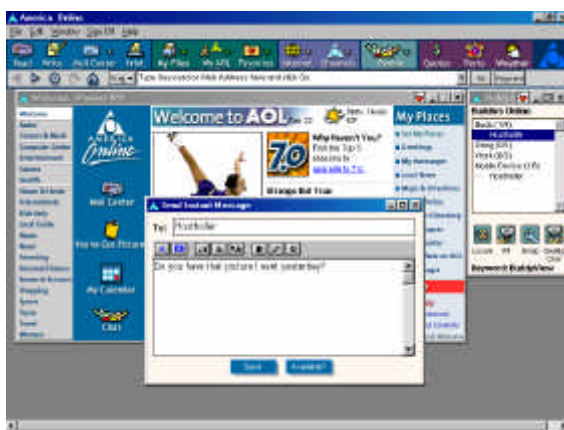
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3G Mobile Phones

- Enhanced telephony
- 2Mbps data transfer
- Multimedia Messaging Service
- Streaming media



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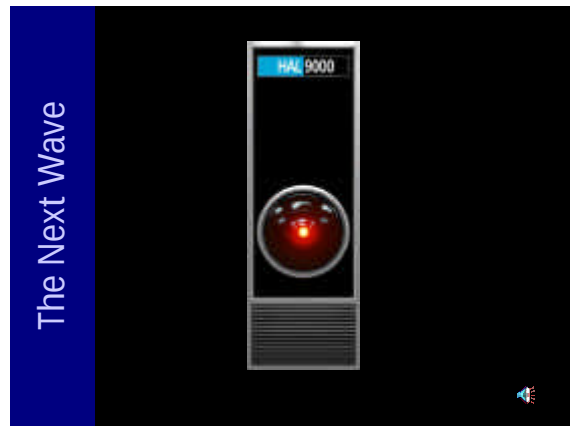



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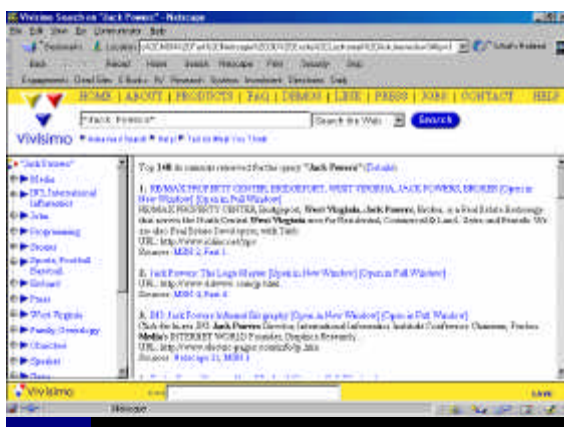


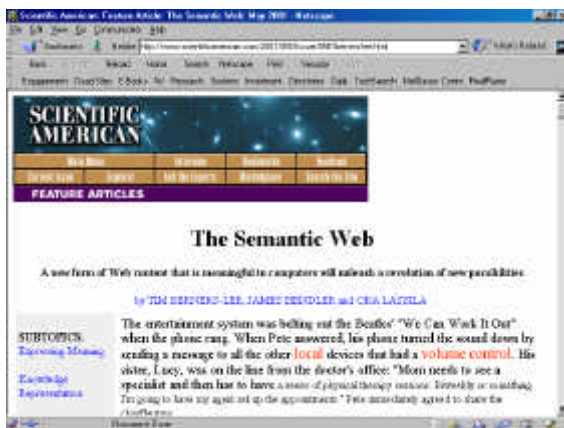
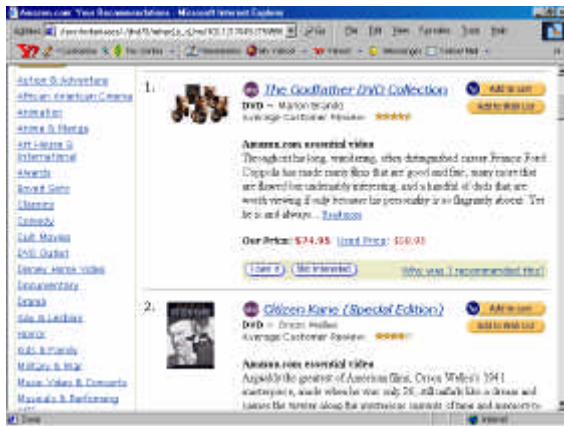



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Artificial Intelligence

- ◆ Systems that Learn, Judge and Act
- ◆ Expert Systems
- ◆ Machine Learning
- ◆ XML Standardization
- ◆ Intelligent Agents
 - “Know” Bots
 - Shopping Bots
 - Personalization Bots





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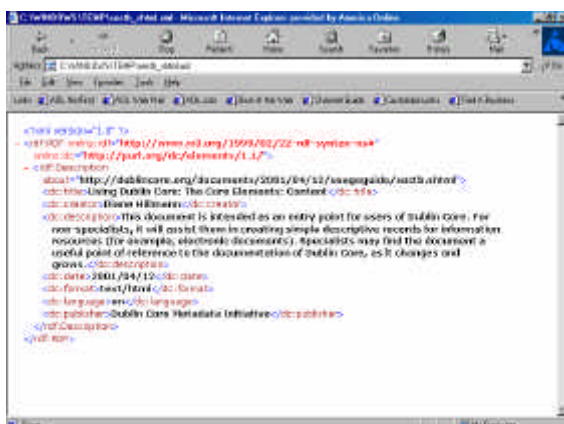
SHOE: Simple HTML Ontology Extensions

- HTML-based knowledge representation

```

<DEF-CATEGORY NAME="ResearchGroup"
  ISA="Organization">
<DEF-CATEGORY NAME="Faculty" ISA="Worker">

<DEF-RELATION NAME="publicationAuthor">
<DEF-ARG POS="1" TYPE="Publication">
<DEF-ARG POS="2" TYPE="Person">
                    
```



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Cyc® Ontology, Cycorp.com

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Ripples

- ♦ Internet Voice
- ♦ Telematics
- ♦ Browser wars
- ♦ Copyright and licensing
- ♦ Privacy and trust issues

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Internet Voice

- ♦ Voice Response
 - VoiceXML
- ♦ Voice Control
 - Conversay
- ♦ Voice Access
 - TellMe, Etrieve, BeVocal

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The image shows two overlapping web browser windows. The background window is for 'BeVocal' with the heading 'What is BeVocal?' and a list of services. The foreground window is for 'TellMe' with the heading 'What is a great service has come to my rescue?' and a list of services.

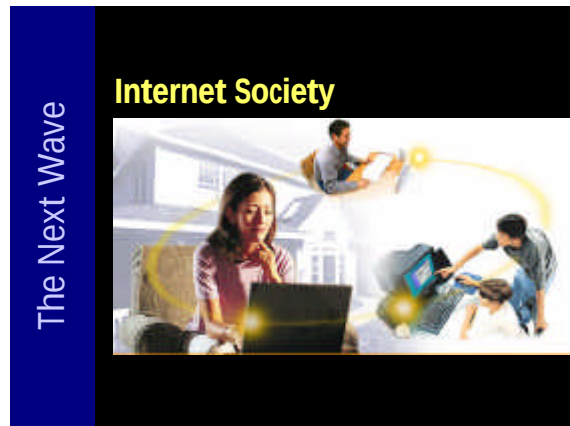


The image is a screenshot of the OnStar website in a Microsoft Internet Explorer browser window. The page has a blue header with the OnStar logo and a 'CLICK HERE TO SIGN UP' button. The main content area is titled 'What is OnStar?' and contains several sections with icons and text, including 'OnStar's New Features', 'OnStar's New Services', 'OnStar's New Benefits', and 'OnStar's New Features'.

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Browser Wars

- ♦ Internet Explorer vs Netscape vs Opera
- ♦ WAP: Wireless Access Protocol
- ♦ Palm VII Web clipping
- ♦ Avantgo
- ♦ Limited appliances
- ♦ Voice



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