

# VNUG 2010 - NonStop Modernization

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ALTERNATIVE THINKING ABOUT MISSION CRITICAL COMPUTING:  
35 YEARS OF NONSTOP INNOVATION

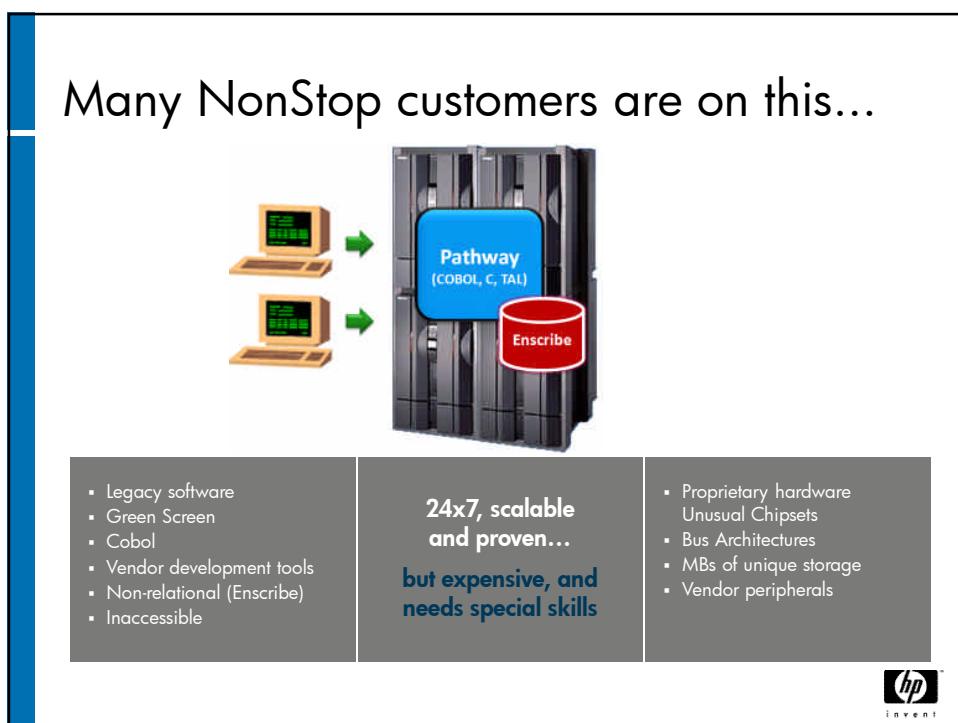
**VNUG**  
VIKING NONSTOP USER GROUP

## HP NonStop Modernization

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The slide features a blue background with a white header section containing the VNUG logo and text. Below this is a large white area with the title "HP NonStop Modernization" and contact information. A tall server tower is positioned on the right side. At the bottom, there is a copyright notice and the HP logo.



### Many NonStop customers are on this...

Legacy software → Pathway (COBOL, C, TAL) → Enscribe

Proprietary hardware  
Unusual Chipsets  
Bus Architectures  
MBs of unique storage  
Vendor peripherals

24x7, scalable and proven...  
but expensive, and needs special skills

HP Invent

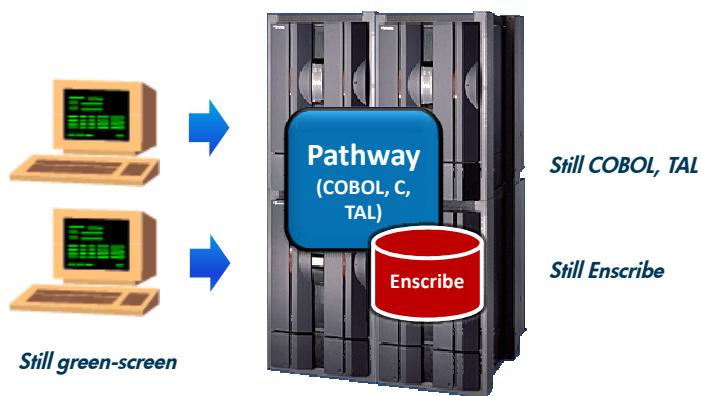
The diagram illustrates the transition from legacy systems (represented by two monitors) to a modern architecture. It shows a flow from legacy software to a central "Pathway (COBOL, C, TAL)" component, which then connects to "Enscribe". The text below highlights the challenges of this approach, including proprietary hardware and high costs.

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Over the years...



..many customers **upgraded the Hardware**  
...but **Applications & Infrastructure didn't evolve!**



Safely locking away the crown jewels!



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## Customers want to leverage modern standards



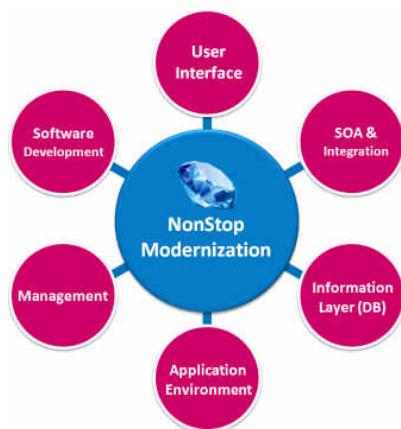
- Modern software
- Web/GUI interfaces
- Java/C++
- Standard development tools
- Relational database
- Enterprise integrated

Open, low-cost and more common skills...  
...yet retain the NonStop fundamentals

- Standard hardware
- Common chipsets
- Blades
- Storage
- I/O infrastructure
- Peripherals

## Aspects to modernizing classic NonStop applications (1)

- User Interface modernization
  - Re-face existing applications with Rich-UIs
  - Ease end-user workforce training
- Integrate NonStop Applications (SOA)
  - Make existing applications and data accessible from heterogeneous platforms
  - Use standard interfaces and protocols
  - Eliminates “islands of information”
  - Faster deploy new business processes
- Information Layer (DB) Modernization
  - Get existing Enscribe data into NonStop SQL relational form
  - Lowers development cost
  - Improves accessibility
  - Enables information to be readily used in new ways



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## Aspects to modernizing classic NonStop applications (2)

- **Modern Development Tools**
  - Hard to find COBOL/TAL programmers
  - Leverage modern programming languages and paradigms
  - Increase programmer productivity
  - Lower development & maintenance costs
- **System & Application Management**
  - Common management view for all HP platforms
  - NonStop management in heterogeneous environments
  - Increase in operator productivity
- **Application Infrastructure**
  - Leverage open, industry standard containers and frameworks
  - Get young talents to work on NonStop



Modernize Application Infrastructure  
**Java and Open source frameworks**

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## Why open source Java frameworks are important to modernize the NonStop Application Infrastructure?

- In the context of modernization, open source Java frameworks are important because
  - Java is a leading programming model for building modern applications
  - The frameworks address and simplify the development of all major components of an enterprise Java application (including web services, presentation, and business logic)

Open Source Frameworks can help you implementing and deploying new apps and services quickly!



## Which open source Java frameworks are part of Open Source Java Frameworks on NonStop?



**Apache MyFaces**

Component based web UI framework



**Apache Axis2**

Web services framework



**Spring**

Framework for developing apps using POJO components



**Hibernate**

Object Relational Mapping (ORM) framework

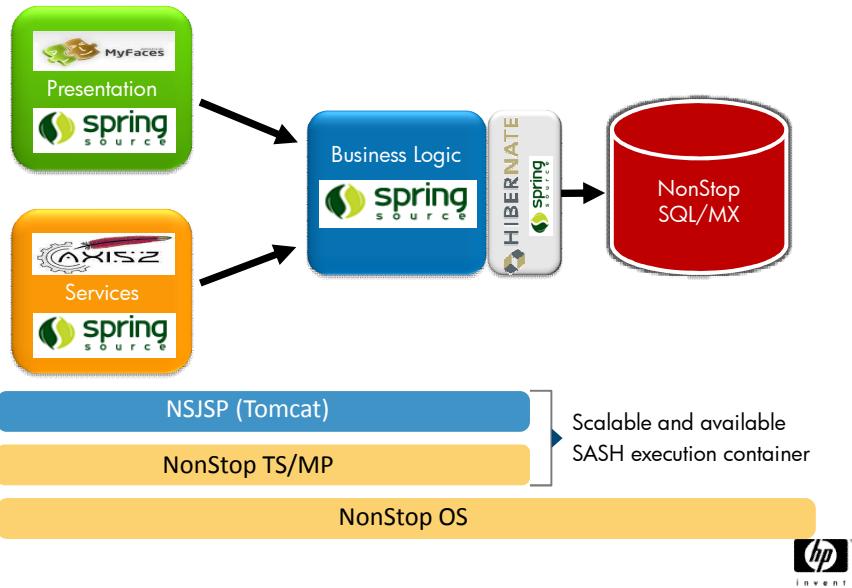
**SASH:** MyFaces, Axis2, Spring, Hibernate

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## Where do SASH frameworks fit?



## Open Source Java Frameworks on NonStop (SASH)

### Enterprise Java on NonStop

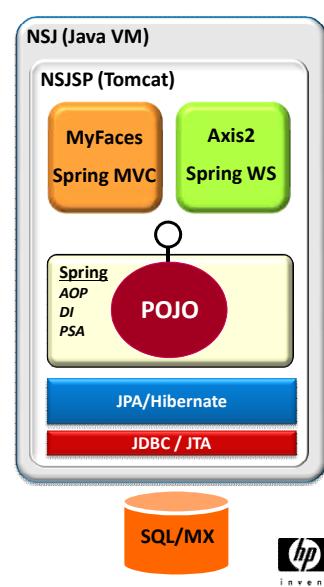
- Executes in NonStop's Tomcat container
- Requires iTP WS, NSJ, NSJSP, TS/MP
- Leverages our scalability and availability
- Integrate existing Apps via JToolkit (Java)

### Documentation & Examples

- Documentation on <http://docs.hp.com>
- Covers NonStop-specifics and examples

### End-User Support through HP

- GMCSC support

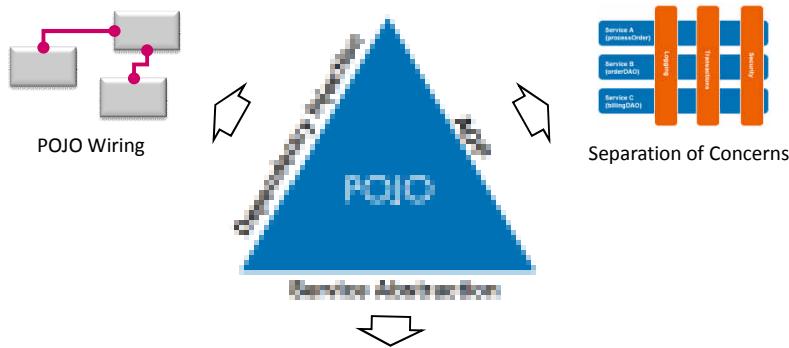


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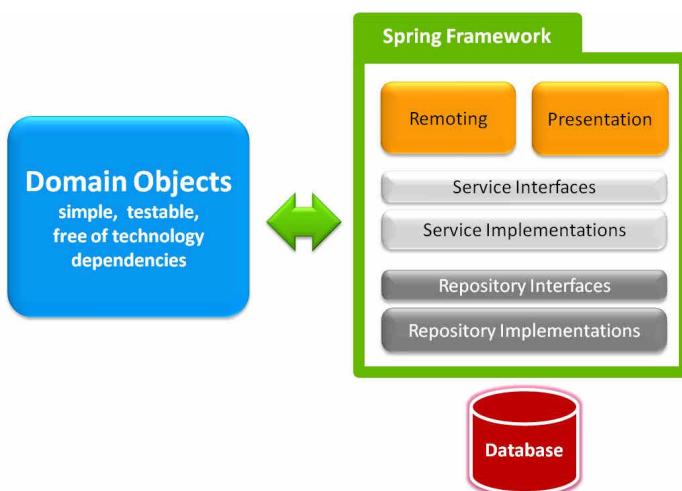
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## Spring Framework – Key Features



## Spring-Clean Your Domain Objects



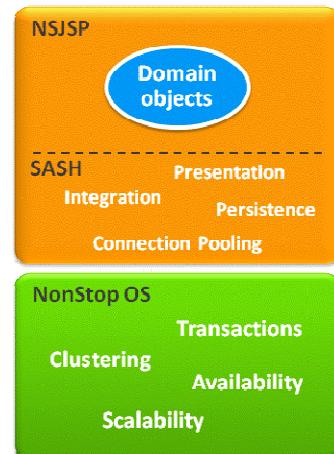
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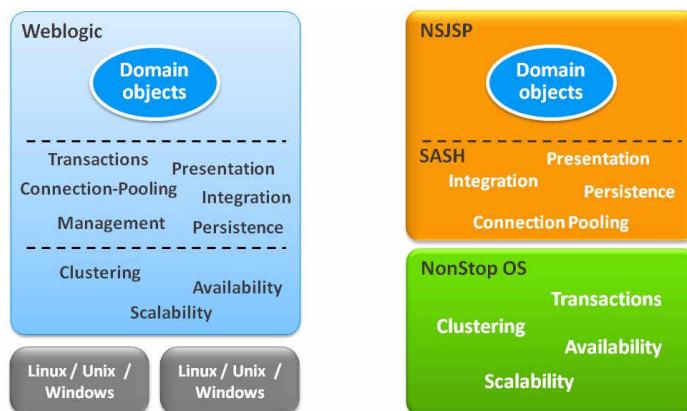
## NSJSP & SASH on NonStop

- Simple
- Feature-rich
- Standard
- Light-weight
- NonStop OS provides
  - Transactions
  - Clustering
  - Scalability
  - Availability



Has everything to build modern, mission-critical, enterprise Java apps!

## NSJSP / SASH versus full Appservers



Different packaging of Enterprise Java...



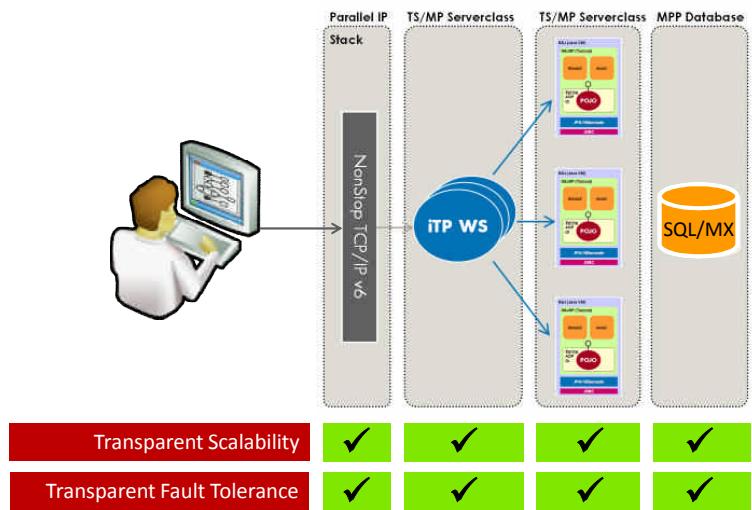
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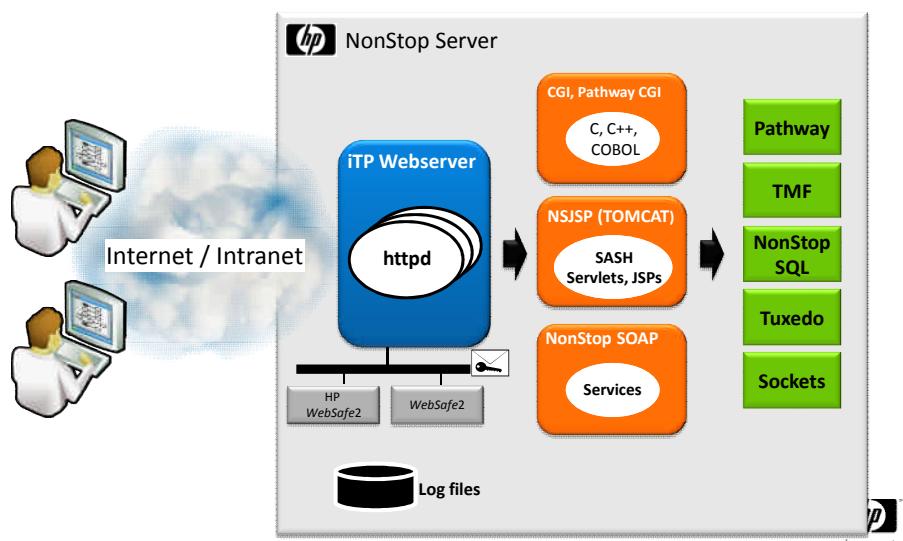
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## Benefits of SASH on NonStop

Light Weight Enterprise Java - NonStop unique value



## iTP WebServer Overview



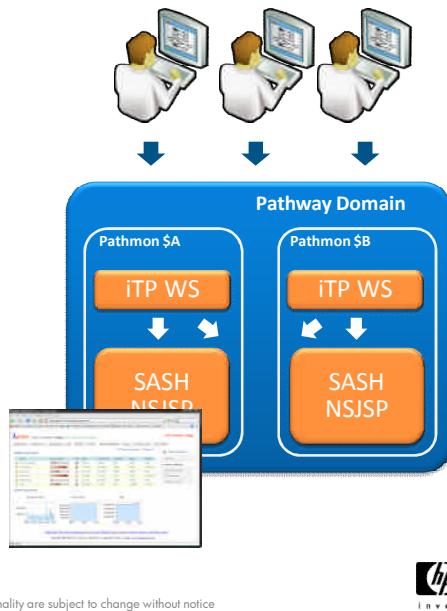
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## NonStop JSP 6.1

- based on Tomcat 6.0.20
- new Management Interface
- even further reduction of planned downtime
  - uses new Pathway Domain feature
  - great example of common standards / uncommon advantages



Future product plans, dates, and functionality are subject to change without notice



## Which customer needs are addressed by SASH?

Customer Need	Fit
User Interface Modernization	✓
Expose existing Business Logic as Services	✓
Build new, Modern Services and Applications	✓
Modernize Data Access	✓
Modernize Development Environment	✓



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## Benefits of SASH

- High market acceptance
- Open source, free
- Non proprietary, backed by major vendors
  - Portable apps, no vendor lock-in
- Light-weight
  - Simple components (POJOs)
  - No expensive app-server needed!
- De facto standards
  - JSF, JPA - part of Java EE spec
- Frameworks, not just a collection of APIs
  - Productivity increase from abstractions, consistency of app structure
  - Better quality apps by automatically embedding good design patterns



Integration and Services  
**Service Oriented Architecture (SOA)**

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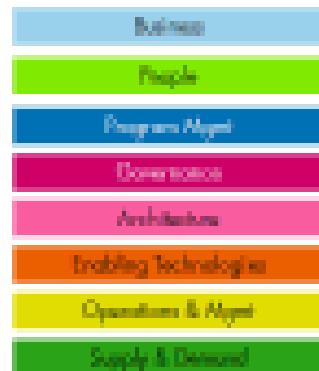
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## What are SOA and web services?

- SOA is not a product
- SOA and web services describe a methodology, and a set of technologies, to present applications in a standard way, as *services*
- SOA encourages *service reuse* that enables existing services to be applied easily to new business processes



## Integration and SOA

### Your Challenges

- Continuous business transformation
- Changing markets
- New demands
- Business / IT disconnect
- Too many redundancies
- Architectural silos
- Agility, fast time-to-market
- Decrease cost (e.g. through reuse)

### NonStop Strength

- Expose existing NonStop assets as services
- Reuse NonStop assets in the enterprise
- Robust business services through 7x24
- Great platform for new, mission critical services
- Very strong data integration features (ODS)



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## SOA – Where do I get help?

### ATC/SDI Services

- Three standard SOA services:
  - SOA Quick Start / SOA Enablement / SOA Rapid Dev.
- SOA is a services play. Contact HP for more!

### NED Products

- NonStop SOAP + iTP Web Server
- NSJSP (Tomcat), plus
  - iTP Web Server
  - Open Source Frameworks (Axis2, Spring Web Services)

### 3rd Party Products

- comForte's CSL Studio and JPath, CAIL's CAIL Studio, Canam's XML Thunder, NuWave's SOAP/AM, Crystal Point's AppViewXS, ACI's Secure SOA Enabler, ..



## NonStop SOAP V4 – New Release

- NonStop SOAP rebased on open-source Apache Axis2/C
  - C-language implementation of 3<sup>rd</sup> generation Web Services engine
  - Widely used product with rich feature set for developing standards-based Web Services
  - Tested for interoperability with Microsoft, IBM Web Services stack
- web-service enabling of Pathway servers
- supports contract-first and implementation first approaches
- integrated with iTP Web Server and TS/MP

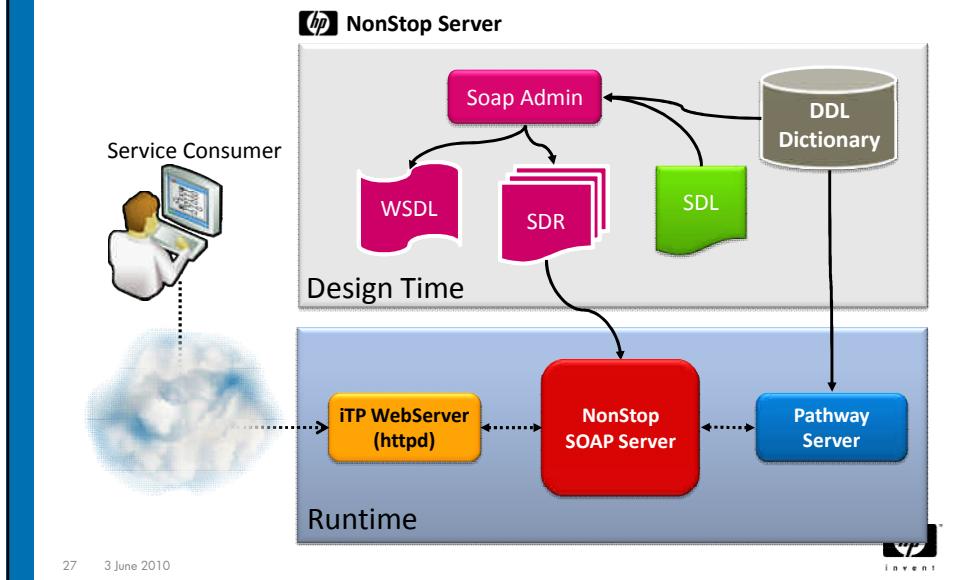


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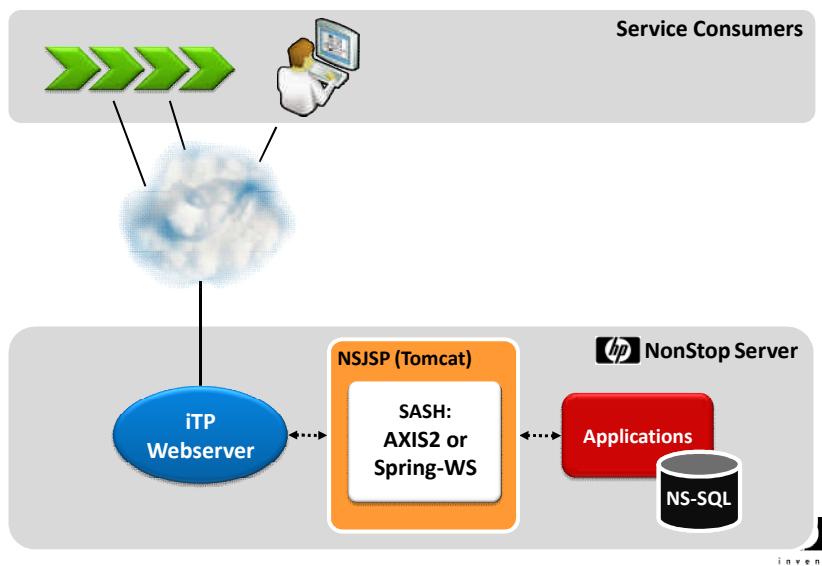
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## NonStop SOAP Overview



## Services based on SASH frameworks: The NSJSP + Open Source Frameworks Approach

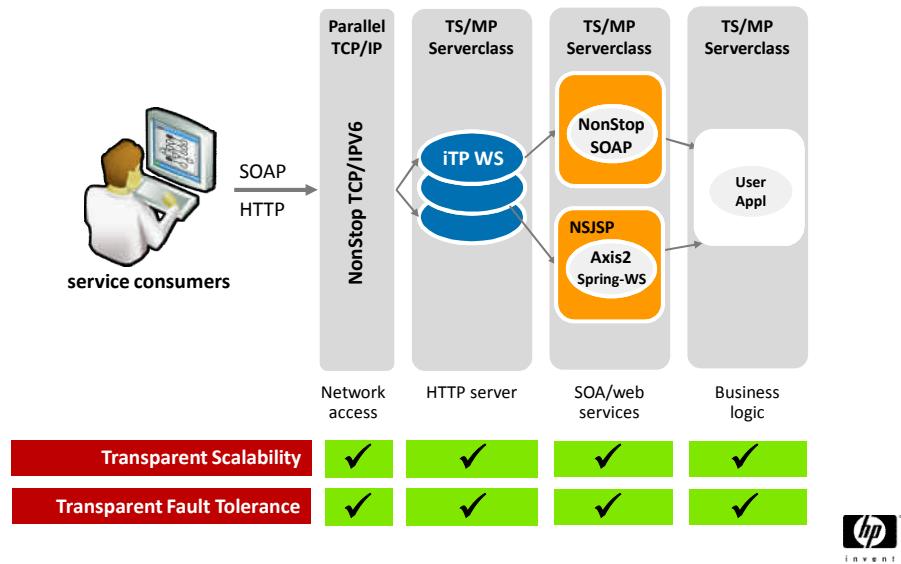


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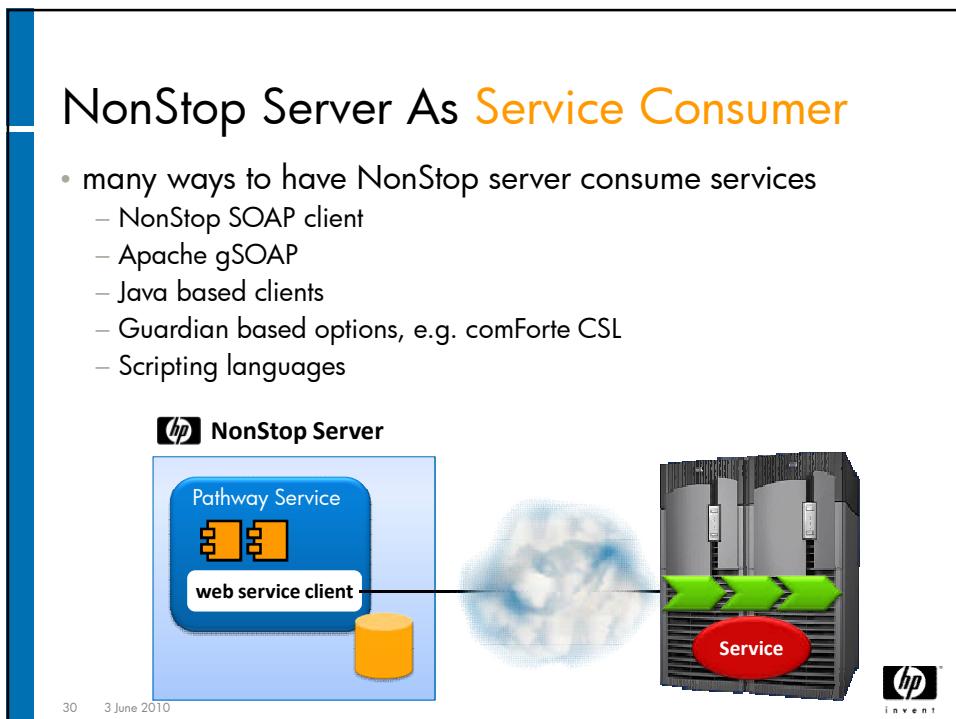
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## Web Services approach Using NonStop SOAP and Java



## NonStop Server As Service Consumer

- many ways to have NonStop server consume services
  - NonStop SOAP client
  - Apache gSOAP
  - Java based clients
  - Guardian based options, e.g. comForte CSL
  - Scripting languages

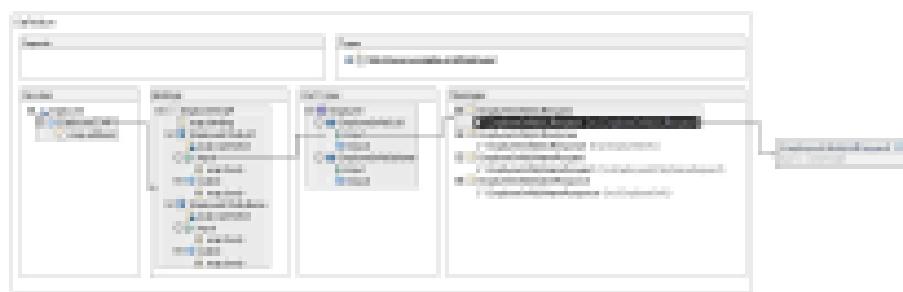


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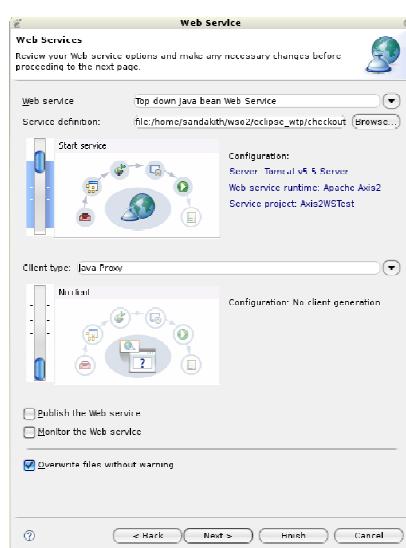
## Tools Example: WSDL Editor of Eclipse



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## Tools Example: Eclipse WTP Web Service Wizard



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The slide features a large, scenic photograph of a sunset over a body of water, with silhouetted mountains in the background. Overlaid on the bottom left is the text "User Interface (UI) Modernization" in a bold, white, sans-serif font. In the bottom right corner is the HP logo.

## User Interface (UI) Modernization

### Your Challenges

- Many apps are still using green-screens
- Steep learning curve
- Low productivity
- Cost of conversion
- Lack of conversion skills

### Your Needs

- Easy to use, rich user interface
- Browser based UI's to avoid deployment effort and cost
- Mashups



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## User Interface Modernization

### NonStop Product Offering

- Java Products – on platform UI's
  - NSJSP, plus Open Source Frameworks
    - myFaces for Java Server Faces (JSF)
    - Spring MVC and Webflow
  - JToolkit for Pathway integration
- SOA products for off platform GUIs (e.g. VB.net)

### Partner Offerings

- comForte's CSL Studio and JPath, CommitWork's OmnivoBase, CAIIL's CAIIL Studio, NuWave's SOAP/AM, Crystal Point's AppViewXS, ACI's Secure SOA Enabler, ..

### Services Offering

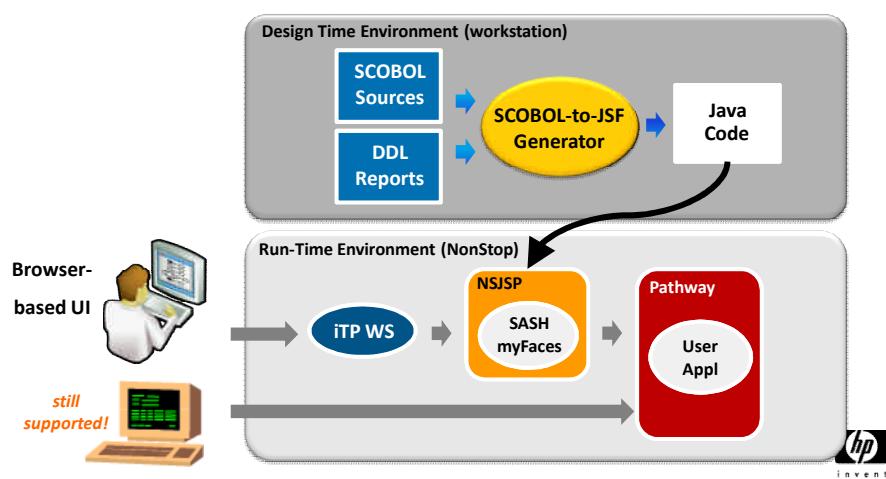
- ATC/SDI Services
  - e.g. Screen Cobol to JSF Converter Service!
  - Java / SASH Svcs (JSF, Spring MVC, Spring Webflow)



## Example: Project at public UK customer

### ATC SDI converted 600 Pathway Screen-Cobol Screens to SASH (JSF)

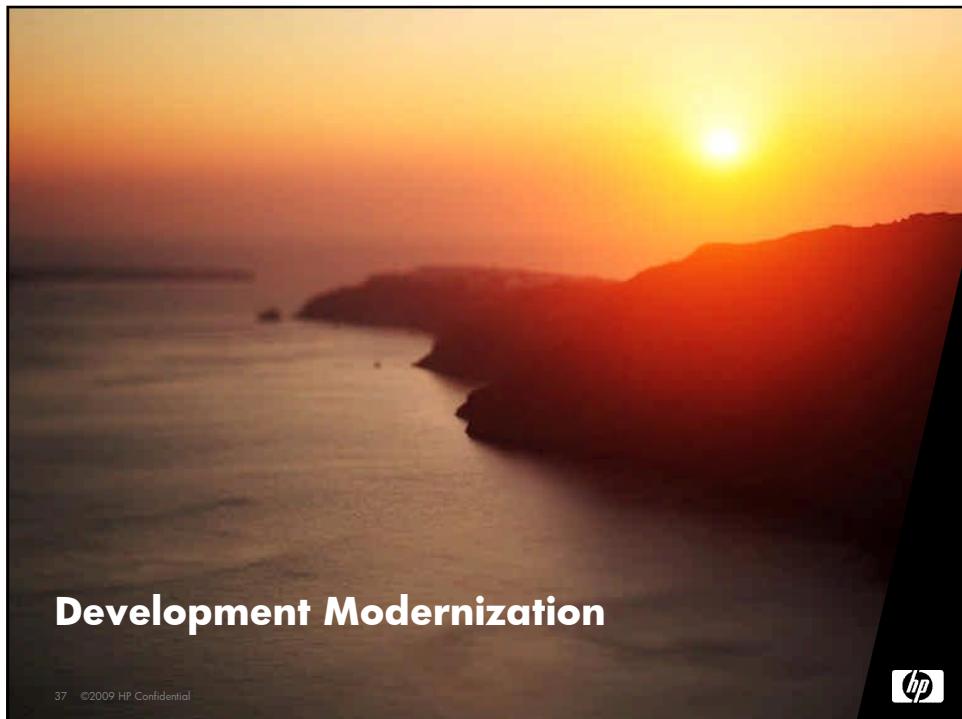
- Take SCOBOL and DDL Report inputs to generate a JSF UI (browser based)
- Service offering! Contact ATC/SDI for more info!



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The image shows a sunset over a body of water, with a silhouette of land and mountains in the distance. The sky is filled with warm orange and yellow hues.

**Development Modernization**

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## NonStop Development Modernization

### You want:

- High developer productivity
- Leverage ubiquitous skills
- Common development environment for all platforms
- Workstation based development

### NonStop Strength

- Our new development infrastructure is based on the industry leading Eclipse IDE
- Eclipse is open source
- Many industry extensions (plugins) available to support any phase of the development lifecycle
- NED offers commercial plugins (NonStop EPE) – same look and feel
- Support for Java out of the box
- Eases development with Open Source Frameworks



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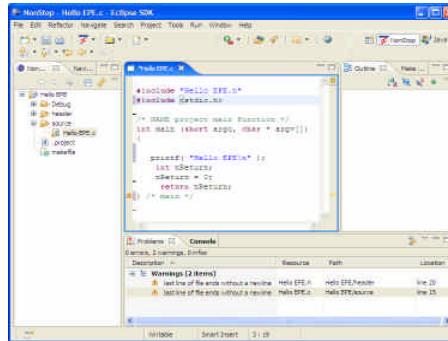
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## NonStop Development Modernization How can HP help?

### NonStop EPE

- COBOL, C/C++, pTAL, SQL/MX, ...
- Available for S-Series and Integrity
- Covers full development lifecycle
  - Editing (syntax highlighting, etc)
  - Compiling
  - Building/Linking
  - Debugging
  - Deploying
- Future: DEBUG via Eclipse
- local and remote builds



### Visual Inspect

- Debug your applications from a Windows workstation

### Services

- ATC/SDI can help your customer in modernizing their development environment



## Integrity NonStop Development Environment

- **Languages**
  - Java
  - C/C++, COBOL, and pTAL
- **Development environments:**
  - PC hosted
    - Integrated Development Environments (IDEs)
    - Cross-compilers for command-line / script use
  - NonStop hosted
    - OSS – POSIX environment
    - Guardian – Optimized for OLTP
- **Debuggers**
  - Graphical
    - Visual Inspect
  - Command-line
    - Native Inspect (GDB based)
    - Inspect (TNS only)
- **IDEs**
  - Eclipse (NSDEE)
  - Visual Studio (ETK)



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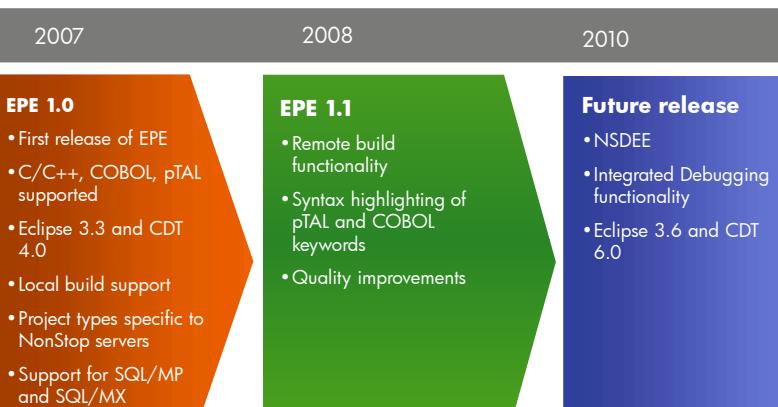
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## Eclipse Background

- Leading “open source” software development platform.
- Architecture
  - Java based
  - OSGI Component model
  - Used as an IDE platform
  - Also used, like MFC, to build stand-alone (RCP) applications
- Runs on many platforms
- Rich plug-in ‘ecosystem’
- Innumerable IDE frameworks and plug-ins:
  - Java Development (JDT)
  - C/C++ Development (CDT)
  - NonStop EPE (Enterprise Plugins for Eclipse)
  - SQL Explorer
  - UML modeling
  - Embedded device development
  - ...
- Yearly major releases



## NonStop Eclipse Roadmap



Continuing enhancements to shipping releases

Dates and content subject to change without notice.



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## Next Release

### Introducing NSDEE

- NonStop Development Environment for Eclipse
- Supports the NonStop Modernization initiative
- A more integrated replacement for Enterprise Plugins for Eclipse (EPE)
- Based on Windows hosted Eclipse
- **Planned FCS is August 2010**

Dates are subject to change without notification



## NSDEE Improvements

- Integrated Debugging
- Improved NonStop connectivity
- Launch programs on NonStop
- Remote build error correction
- Improved Eclipse integration



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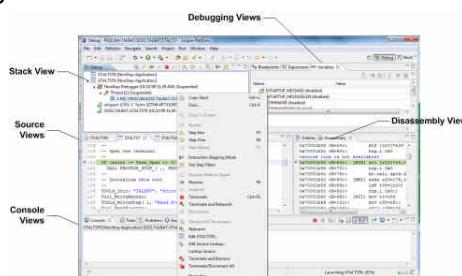
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## Integrated Debugging

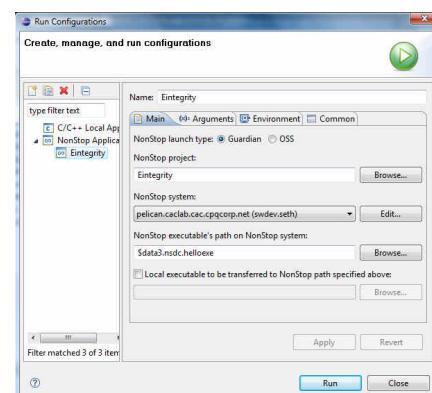
- Optional NSDEE component
  - Use the CDT Debug Perspective to debug Integrity NonStop programs built using NSDEE
    - Windows hosted builds
    - NonStop hosted builds
  - Provides basic source-level and machine-level debugging operations for unoptimized programs
  - Extends IDE editors to support debugger operations

The screenshot shows the Eclipse IDE interface with the 'Debugging Views' perspective selected. The title bar reads 'Debugging Views'. The 'Stack View' tab is highlighted in blue. The main workspace displays several tabs for different debugging sessions, including 'Process 1', 'Process 2', 'Process 3', and 'Process 4'. A tooltip 'Stack View' points to the tab.



## Launch Programs on NonStop

- NonStop run configurations supported to launch NSDEE built programs on Integrity NonStop systems
    - Executable automatically transferred
    - Launched with specified options



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## Comparing Features

	ETK	EPE	NSDEE
Languages	C/C++ COBOL pTAL	C/C++ COBOL pTAL	C/C++ COBOL pTAL
Local build	Yes	Yes	Yes
NonStop build	No	Yes	Yes
NonStop launcher	No	No	Yes
Integrated debugging	No	No	Yes (optional)
Connectivity	Telnet / FTP	Telnet / FTP	SSH Telnet / FTP



## Management Modernization

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## Management Modernization How can HP help you?

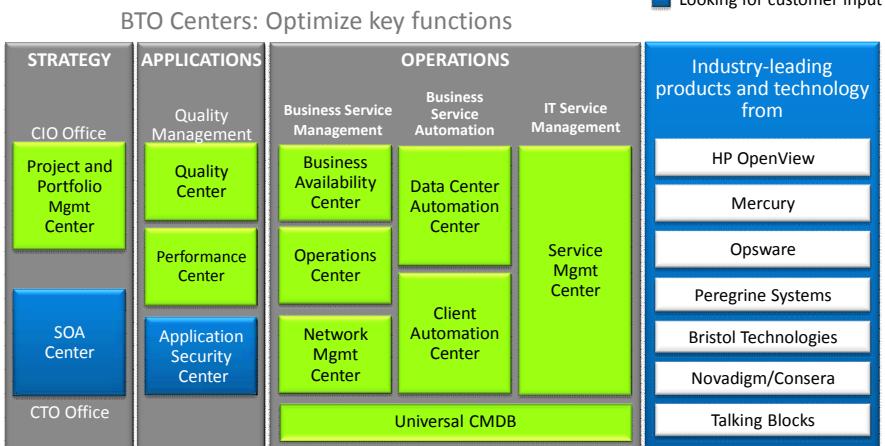
### Customer Needs

- Unified Management Infrastructure
- Flexible staffing models
- Reduced training costs
- Standardized responses to events
- Non-disruptive implementation
- Reduced administration efforts
- Quicker time to problem resolution

=> **Lower TCO**



## Management Modernization BTO Support for NonStop



NonStop support in many BTO Centers!



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## HP BTO software support for NonStop

Center	Products supported for NonStop
Project and Portfolio Management Center	Deployment Management Module, Demand Management Module, Financial Management Module, Portfolio Management Module, Program Management Module, Project Management Module, Resource Management Module, Time Management Module
SOA Center	Based on customer demand
Quality Center	Quality Center Software (TestDirector), Business Process Testing, Center Management, Requirements Management Module
Performance Center	LoadRunner, Center Management
Application Security Center	Based on customer demand
Business Availability Center	TransactionVision, Business Process Insight, Universal CMDB, Discovery and Dependency Mapping, SiteScope
Operations Center	Operations Manager, Reporter
Network Management Center	Network Node Manager, Route Analytics Management, Report Pack Gallery, Operations Support Systems Portfolio
Data Center Automation Center	Operations Orchestration, Storage Essentials, Release Control
Client Automation Center	Client Automation Software
Service Management Center	Service Manager, DecisionCenter, DDM Inventory



## Summary

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You **can** realize  
modernization benefits on NonStop today

- Develop your apps using industry standard app development tools
- Architect your apps using industry standard programming paradigms
- Deploy your apps on a scalable, yet industry standard app server
- Integrate your apps with other apps in the enterprise as SOA services
- Store your data in a high performing, yet standard relational database
- Access your data via industry standard database access technologies
- Connect using industry standard network protocols

Common Standards

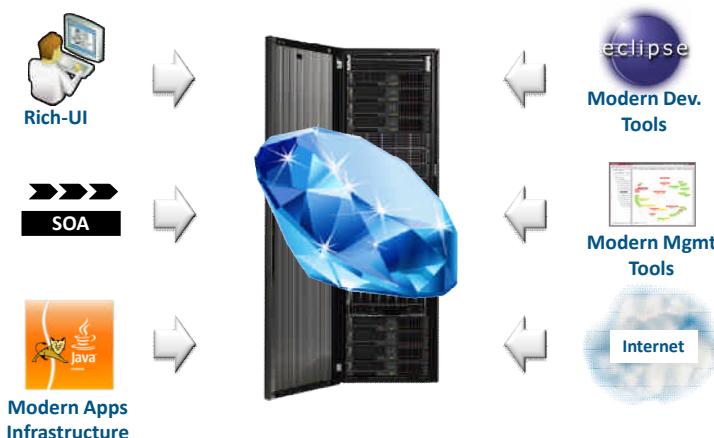
- Open APIs
- Open Accessibility
- Frameworks
- Tools

Uncommon Advantages

- Highly scalable
- Highly available
- Easily manageable
- Secure



NonStop Servers - Ready for the future...



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## Questions?

