InterConnect 2016
The Premier Cloud & Mobile Conference

Optimize your BigFix Deployment via Customization and Integration

Lee Wei

February 21 – 25
MGM Grand & Mandalay Bay
Las Vegas, Nevada

Topics / Goals

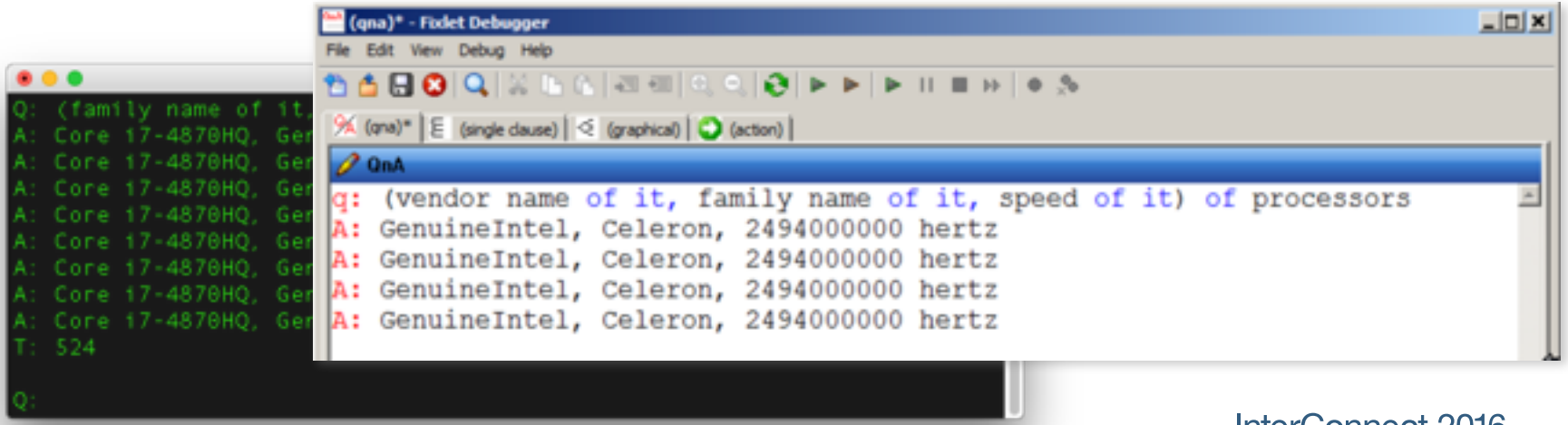
- Survey of what is available
- Walkthrough all the BigFix APIs
- Imagine the possibilities

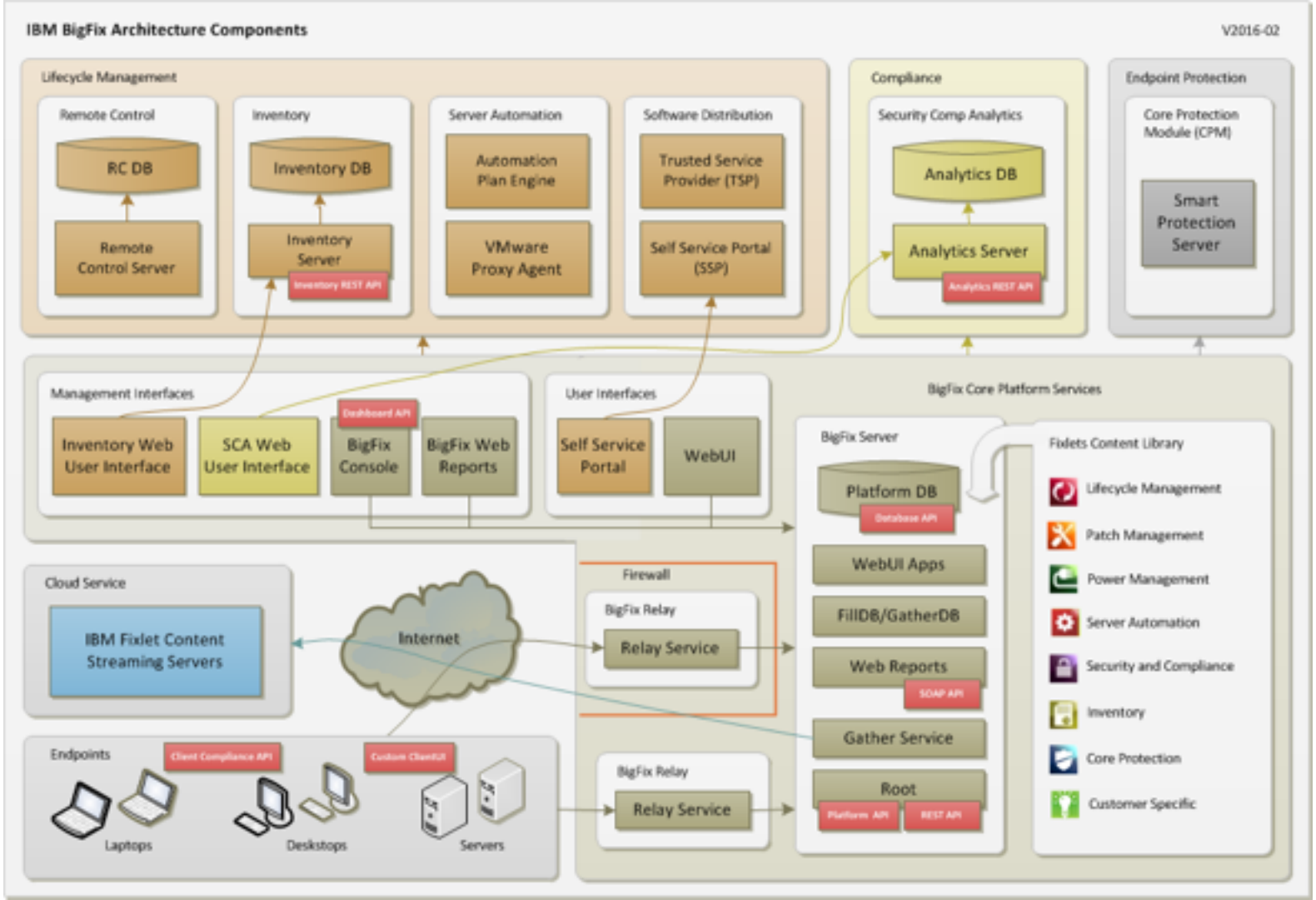
Prerequisite

- Relevance
- Relevance
- Relevance

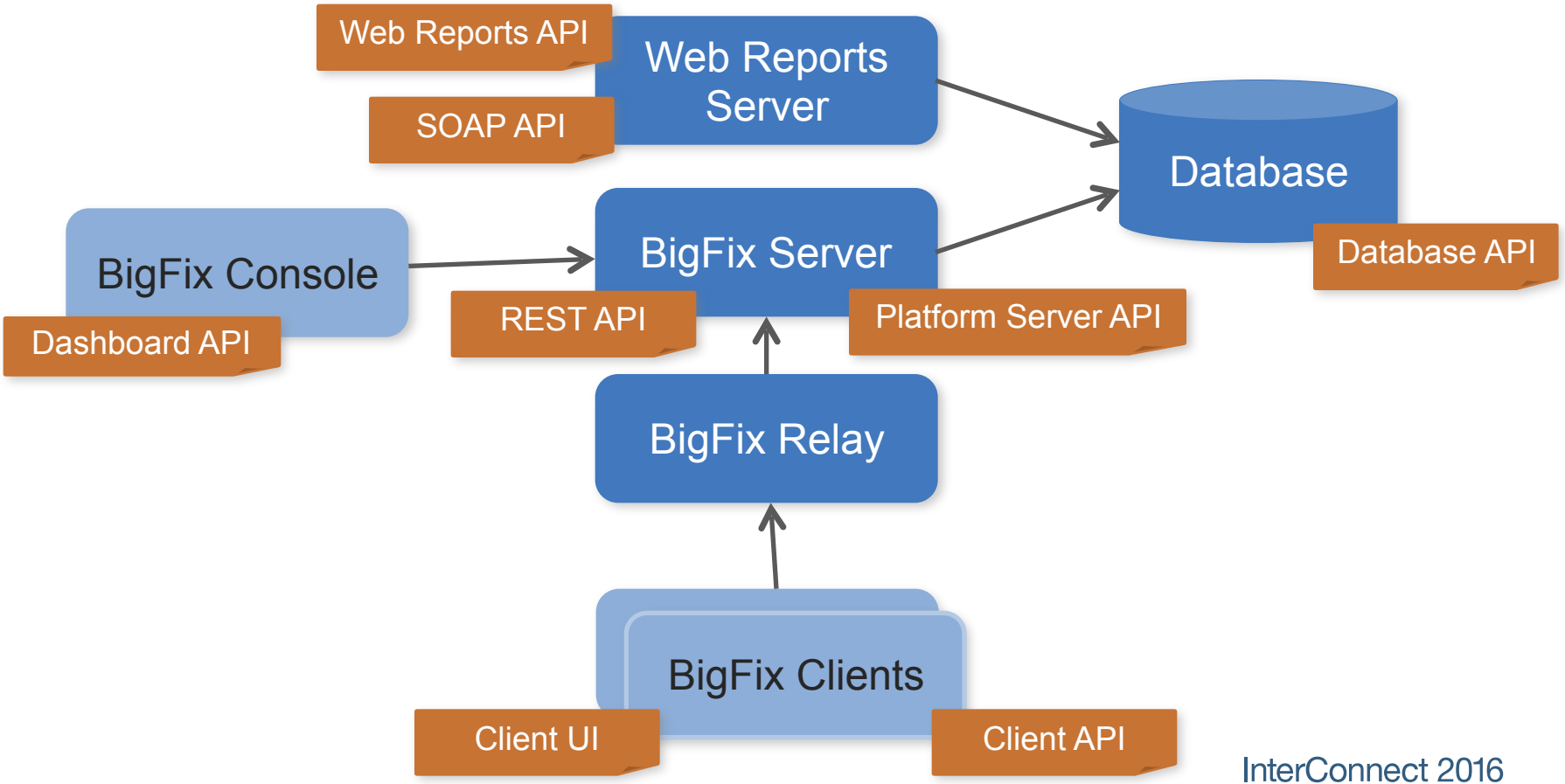
BigFix Relevance & ActionScript Language

- Foundational scripting language used for all
  - Fixlets, Tasks, Analyses, Baselines, Properties
  - Same language construct across all components
- High level non-procedural 4GL
- Cross platform for Windows, UNIX, Linux, and Mac OS X




IBM BigFix Architecture Components
V2016-02
Lifecycle Management
Remote Control
RC DB
Remote Control Server
Inventory
Inventory DB
Inventory Server
Inventory REST API
Server Automation
Automation Plan Engine
VMware Proxy Agent
Software Distribution
Trusted Service Provider (TSP)
Self Service Portal (SSP)
Compliance
Security Comp Analytics
Analytics DB
Analytics Server
Analytics REST API
Endpoint Protection
Core Protection Module (CPM)
Smart Protection Server
Management Interfaces
Inventory Web User Interface
SCA Web User Interface
Dashboard API
BigFix Console
BigFix Web Reports
User Interfaces
Self Service Portal
WebUI
BigFix Core Platform Services
BigFix Server
Platform DB
Database API
WebUI Apps
FillDB/GatherDB
Web Reports
SOAP API
Gather Service
Root
Platform API
REST API
Fixlets Content Library
Lifecycle Management
Patch Management
Power Management
Server Automation
Security and Compliance
Inventory
Core Protection
Customer Specific
Cloud Service
IBM Fixlet Content Streaming Servers
Internet
Firewall
BigFix Relay
Relay Service
BigFix Relay
Relay Service
Endpoints
Client Compliance API
Custom ClientUI
Laptops
Desktops
Servers

BigFix APIs


Web Reports API
Web Reports Server
SOAP API
Database
Database API
BigFix Console
Dashboard API
BigFix Server
REST API
Platform Server API
BigFix Relay
BigFix Clients
Client UI
Client API

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Client Side APIs

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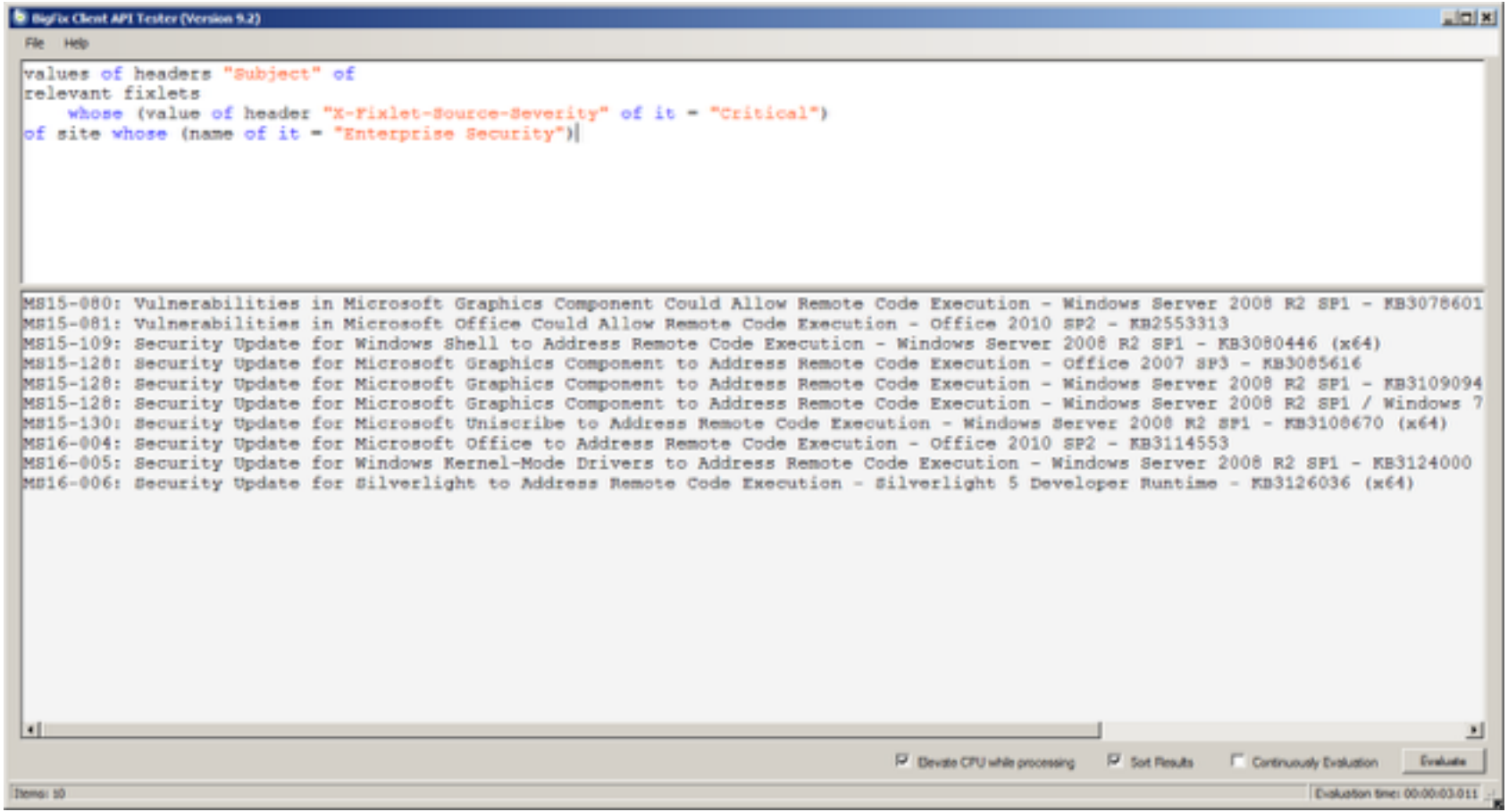
BigFix Client APIs

API	Execute Against	Language / Interface	Read or Write	Popularity (10 – high, 1 – low)	Demo / Uploaded
Client API	BigFix Client	Client Relevance / MS COM	Read	2	Yes / Yes
Client UI	BigFix Client	HTML, Client Relevance / -	Read	2	Yes / No

Client API

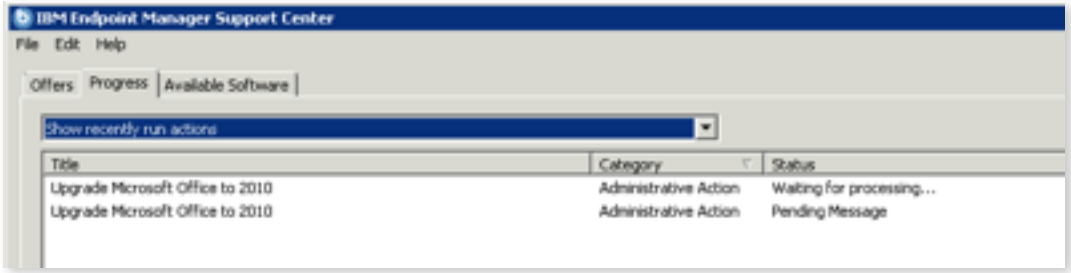
- Microsoft COM based API
- Used to query BigFix Client for endpoint information
- Commonly used to interface with other endpoint agents (e.g. NAC), or custom end-user applications
- Allows BigFix partners and integrators to expose the results of an endpoint inspection conducted by the BigFix Client to their own logic embedded in 3rd-party clients executing on the client machine
- Potential use cases
  - Detect if security products (anti-virus, firewall) are installed or running
  - Detect that wireless networks are disabled
  - Patch status on the endpoint

Client API – Example Client API Tester

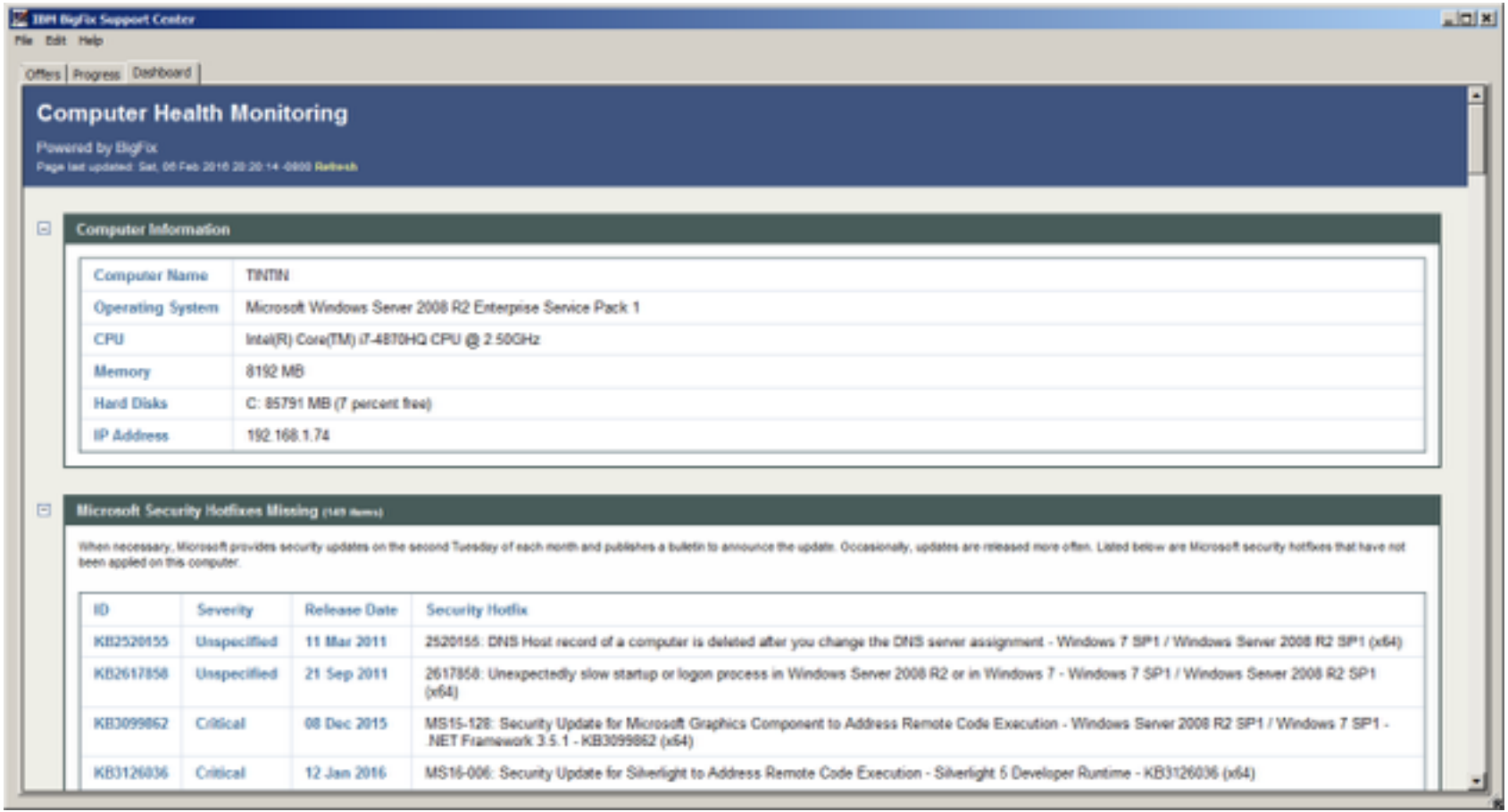


ClientUI Customization

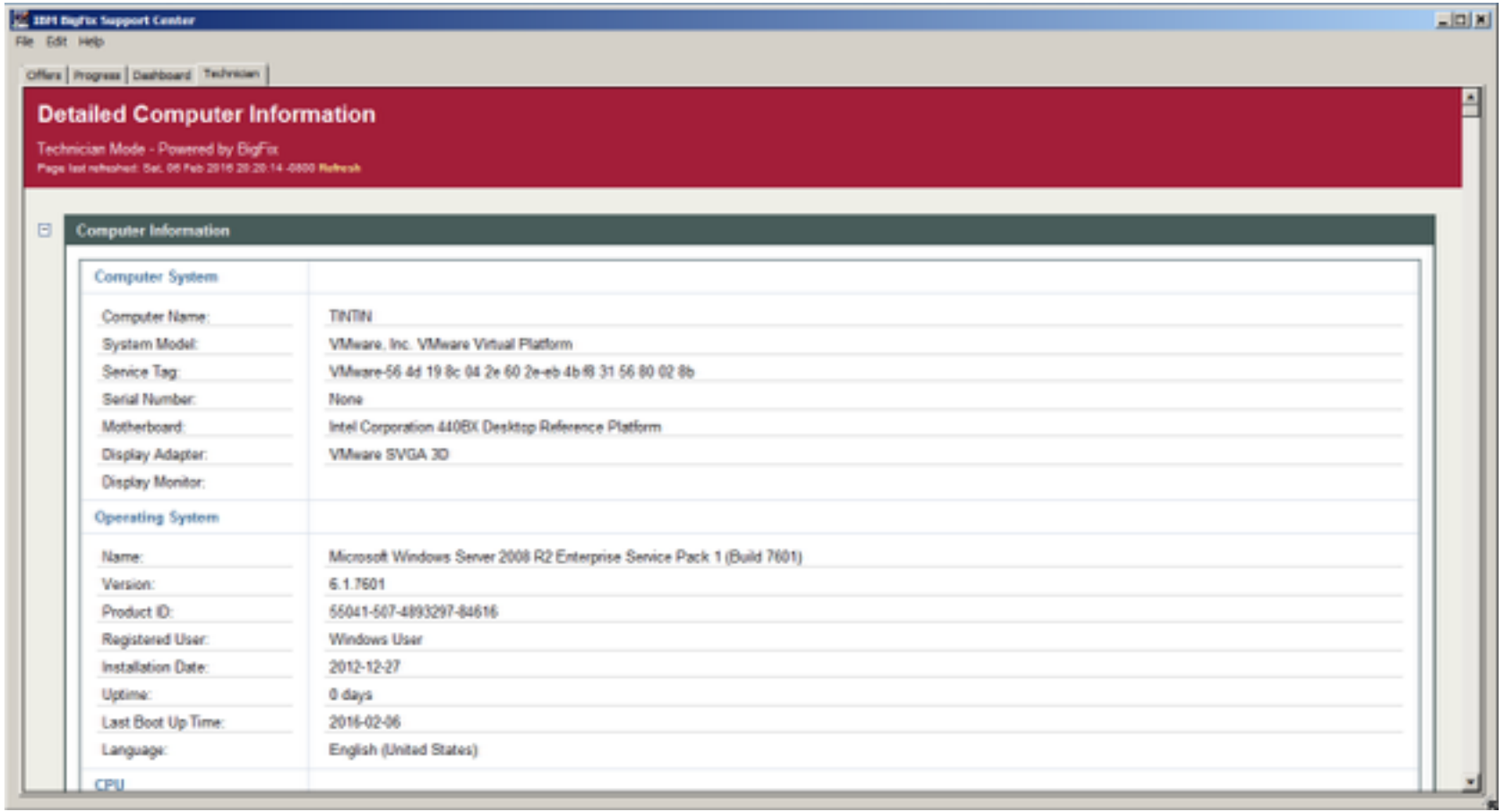
- The Client Dashboard provides a standard UI for user interactions
  - Offers
  - Progress of actions
  - Available Software
- 2 additional tabs can be customized
  - Dashboard
  - Technician Mode (Ctrl-Alt-Shift-T)



ClientUI Customization - Dashboard



ClientUI Customization – Technician Mode



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Server Side APIs

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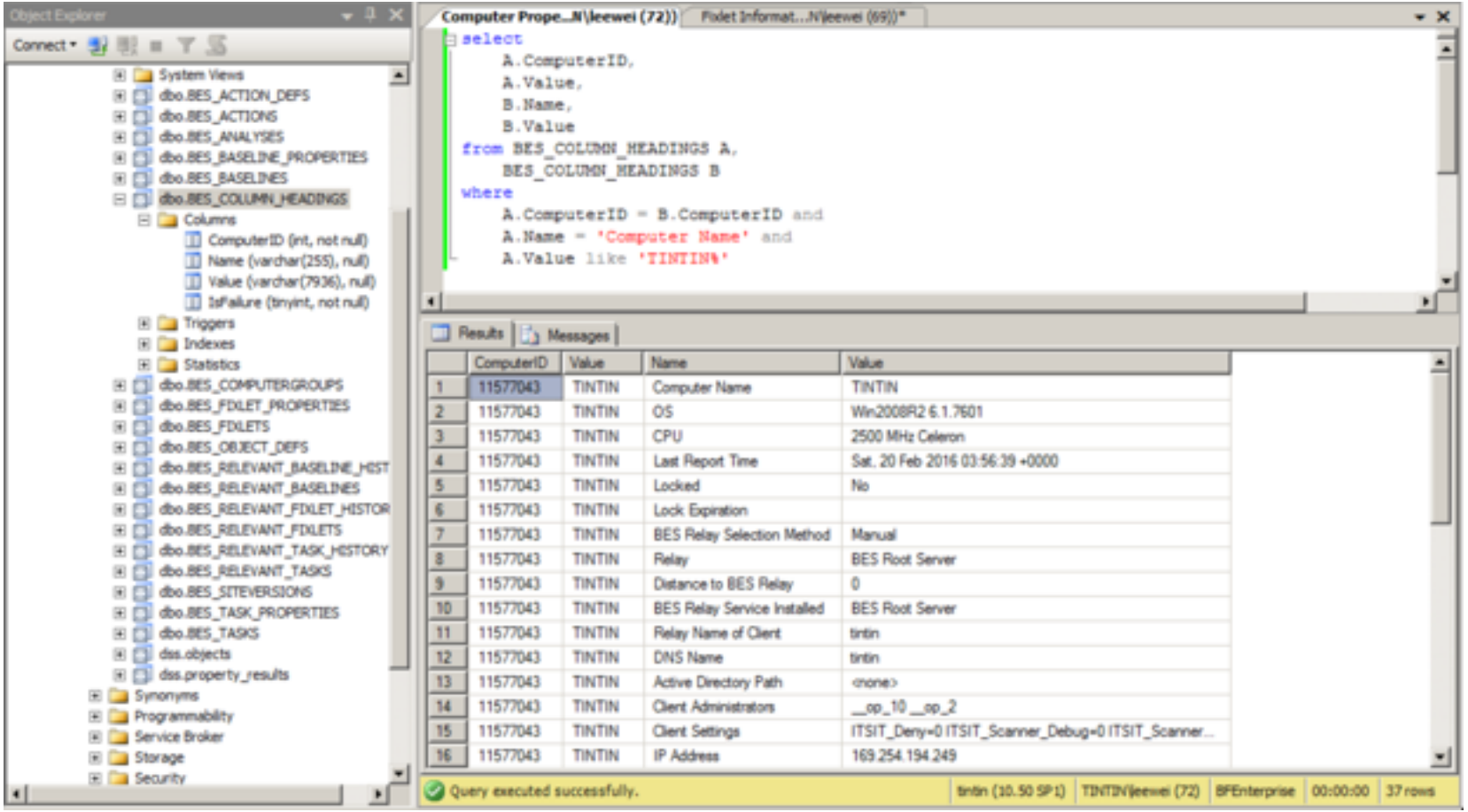
BigFix Server APIs

API	Execute Against	Language / Interface	Read or Write	Popularity (10 – high, 1 – low)	Demo / Uploaded
REST API (Platform)	BigFix Server	Any Language / HTTPS	Read / Write	10	Yes / No
REST API (Inventory)	Inventory Server	Any Language / HTTPS	Read / Write	3	No / No
REST API (SCA)	Security Compliance Analytics Server	Any Language / HTTPS	Read / Write	3	No / No
Platform Server API	BigFix Server	Any Language / MS COM	Write	4	Yes / Yes
Database API	BigFix Database	SQL / (ODBC, ADO, JDBC)	Read	3	Yes / Yes
SOAP API	Web Reports	Session Relevance / SOAP	Read	5	Yes / Yes
Dashboard API	BigFix Console	Session Relevance / -	Read / Write	2	Yes / No

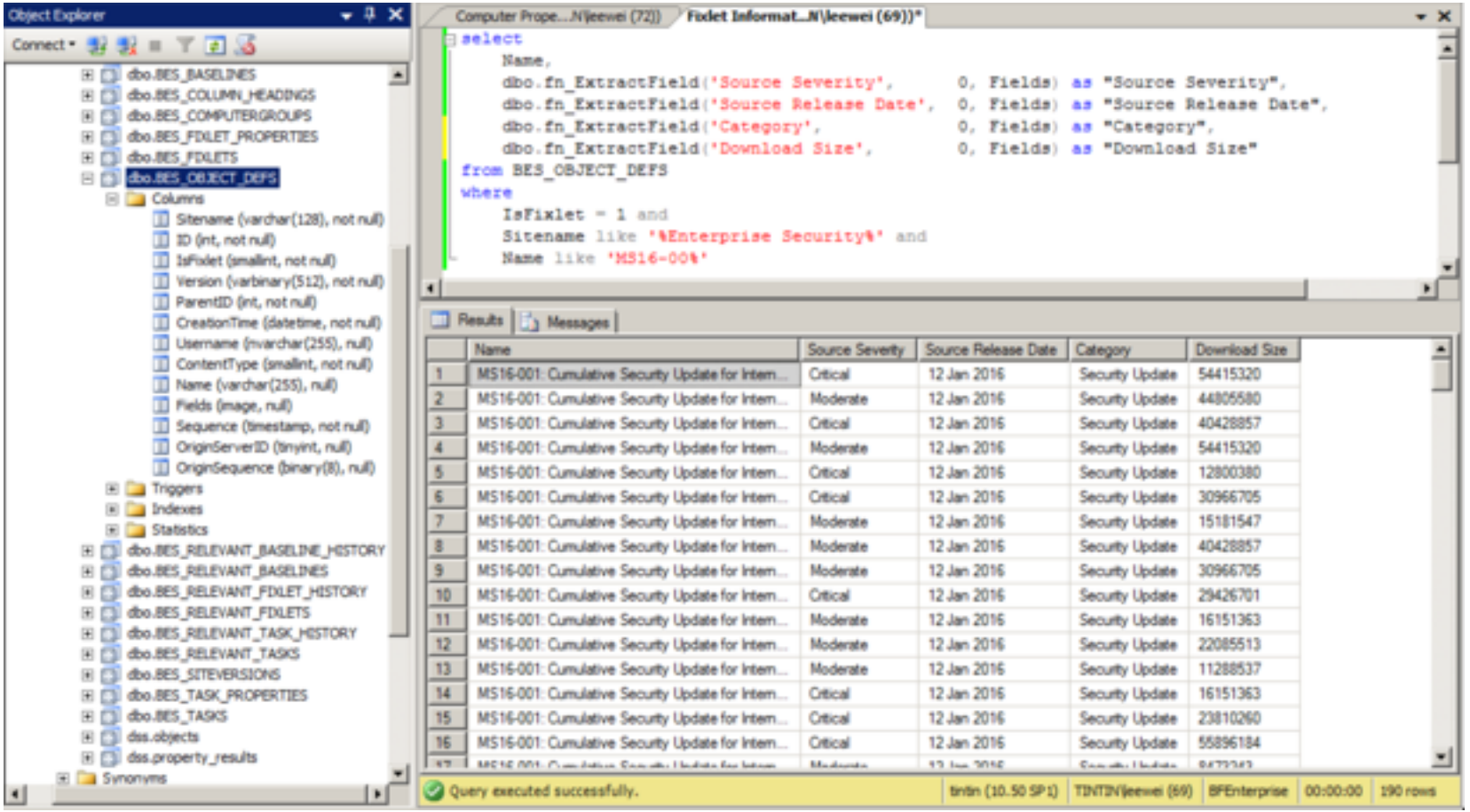
Database API

- The Database API is a published schema describing Views to the underlying tables
- All information collected from managed endpoints available from the database
- Any programming language that has an ODBC interface can be used to access the database
- Used only for reads, no writes
- Some fields are stored as binary data to be extracted with function
  - Fn_Extractfield()
- Online documentation

Database API – Example to extract comp properties



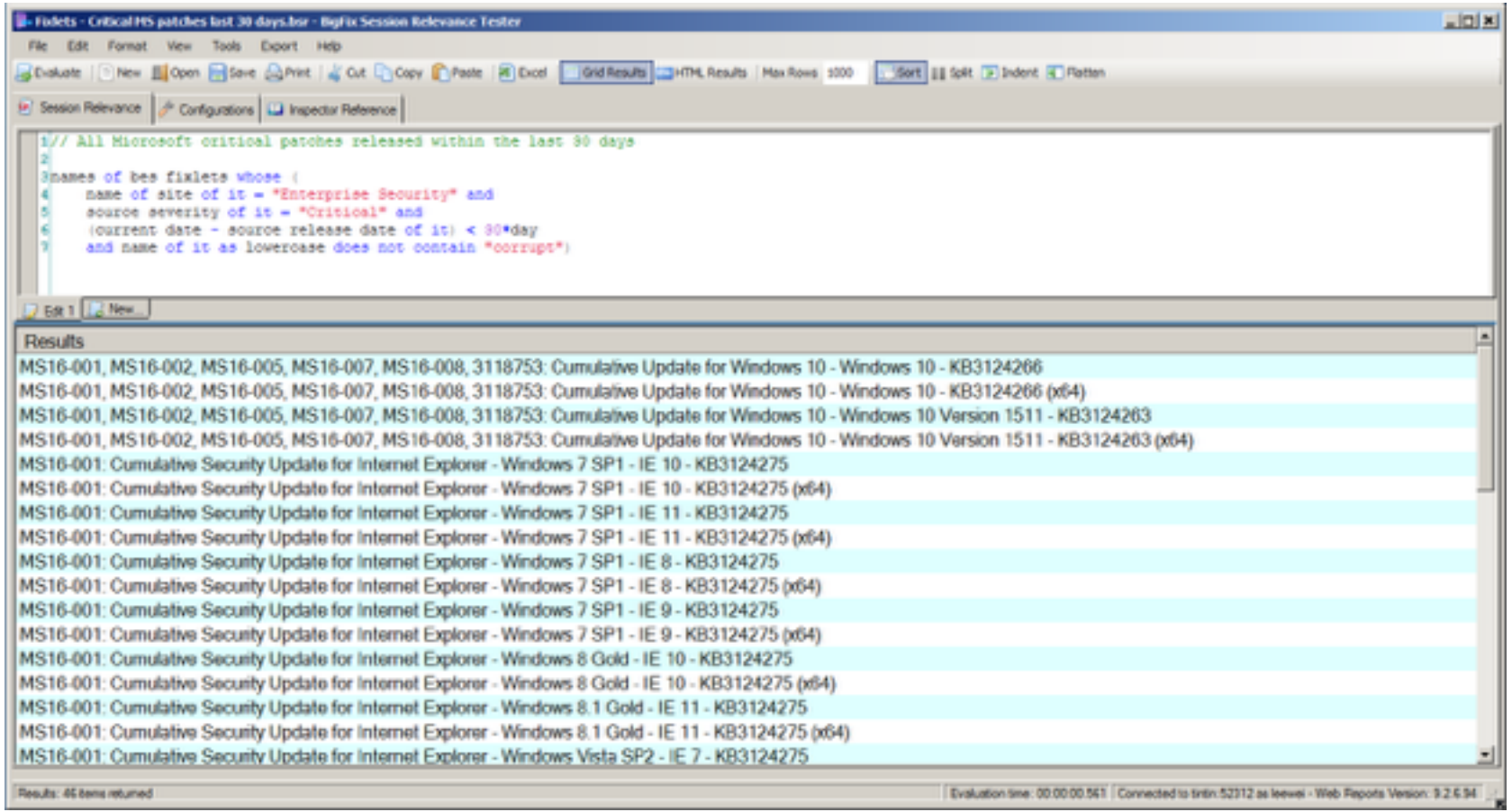
Database API – Example to extract Fixlet info



SOAP API

- XML based SOAP API for querying objects in the BES Web Reports
- Results returned as XML documents
- Used only for reading

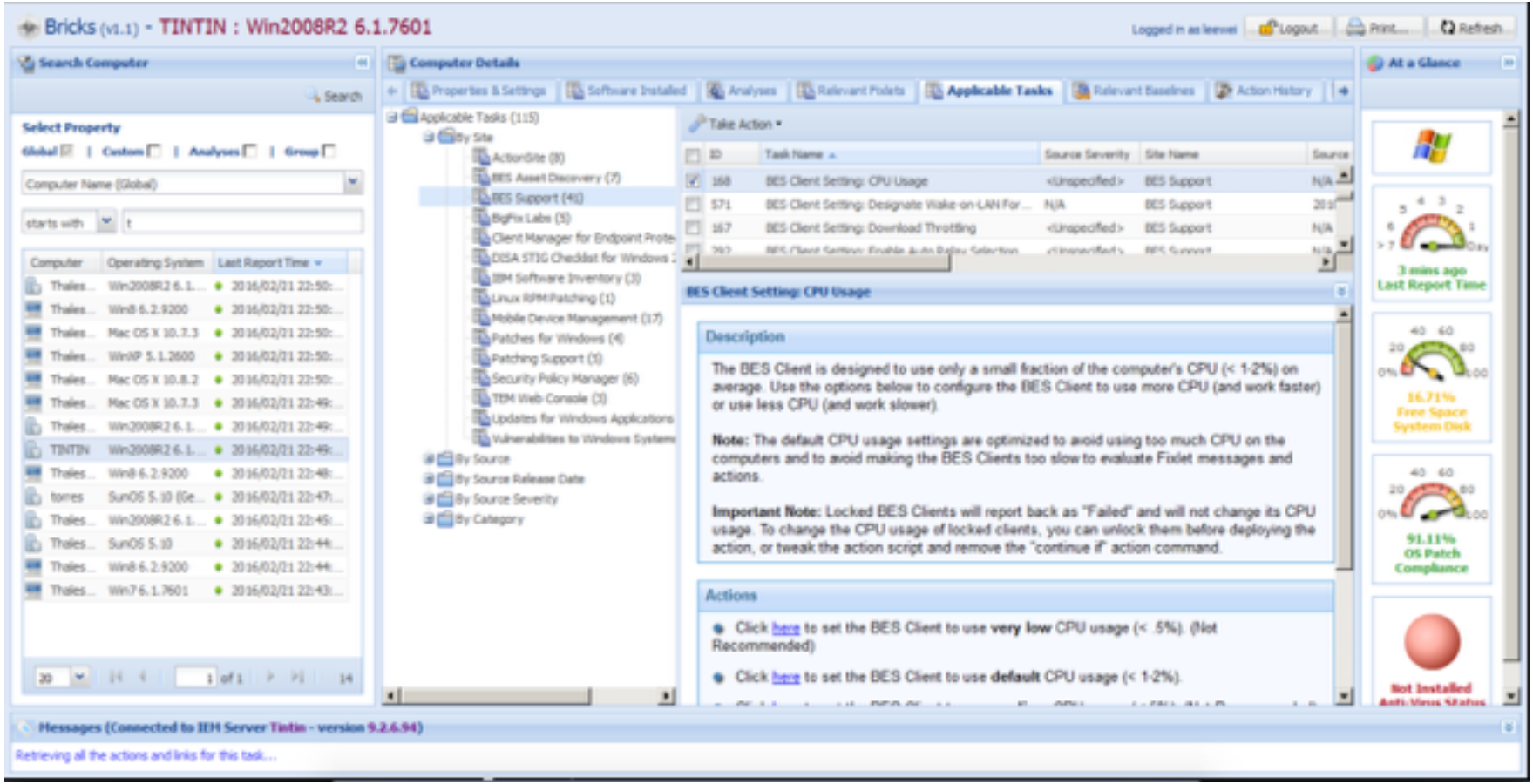
SOAP API – Example Session Relevance Tester



Platform Server API

- Microsoft COM based API
- Full programmer's interface into creating Fixlets/Tasks/Properties/ Actions/Analysis in BigFix
- Callable from languages such as Java, VBScript, JavaScript, Perl, C, C ++, .NET, and etc.
- Often used to replicate functionality of the BigFix Console

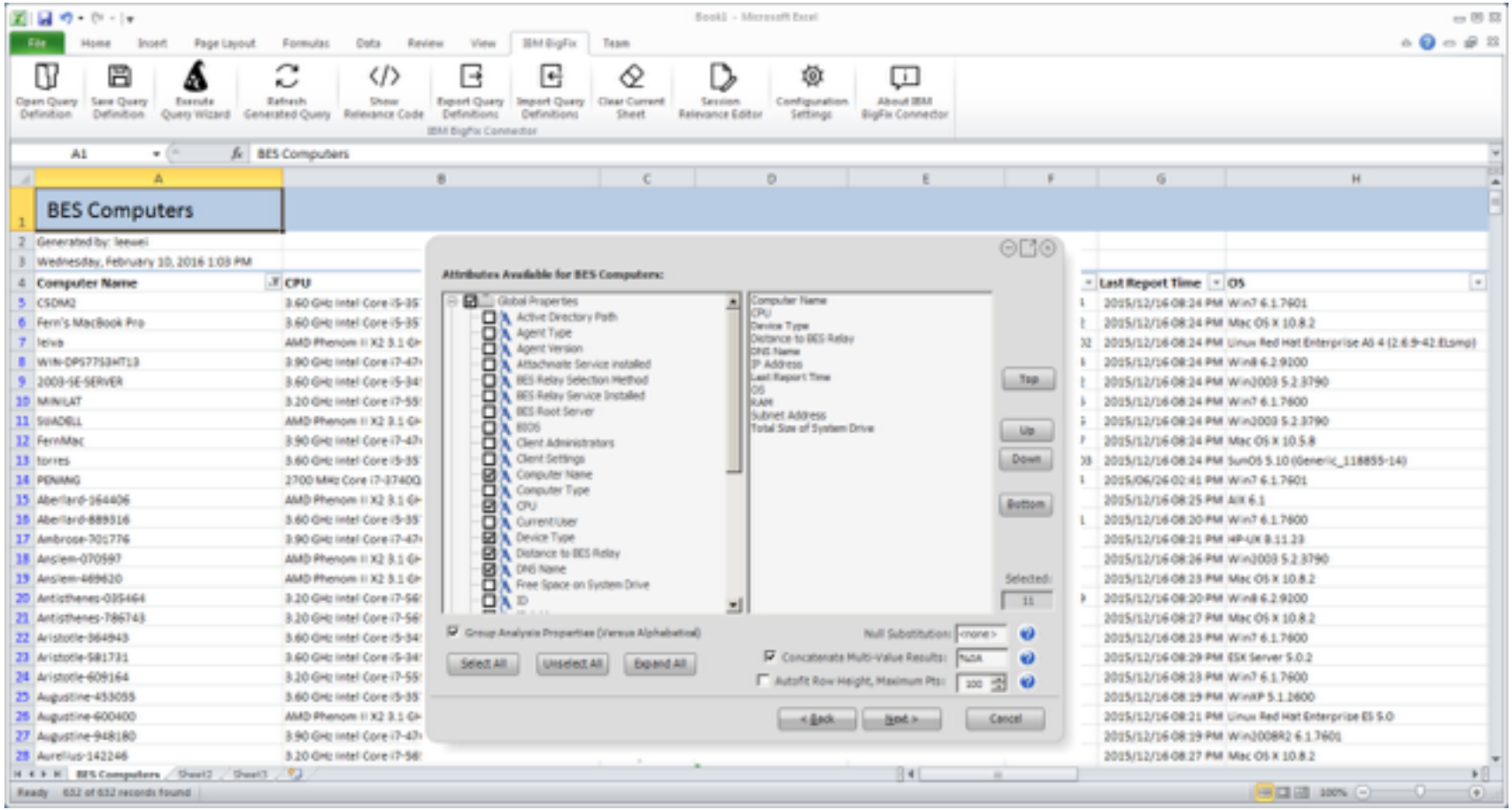
Platform Server API – Example Bricks



REST API

- Perform the majority of tasks present in the console via a standardized and operating system independent method
- Communicates over HTTPS
- Results in either XML or JSON
- The only API that allows performing
  - Visibility / read functions, e.g. get info
  - Control / write functions, e.g. take actions

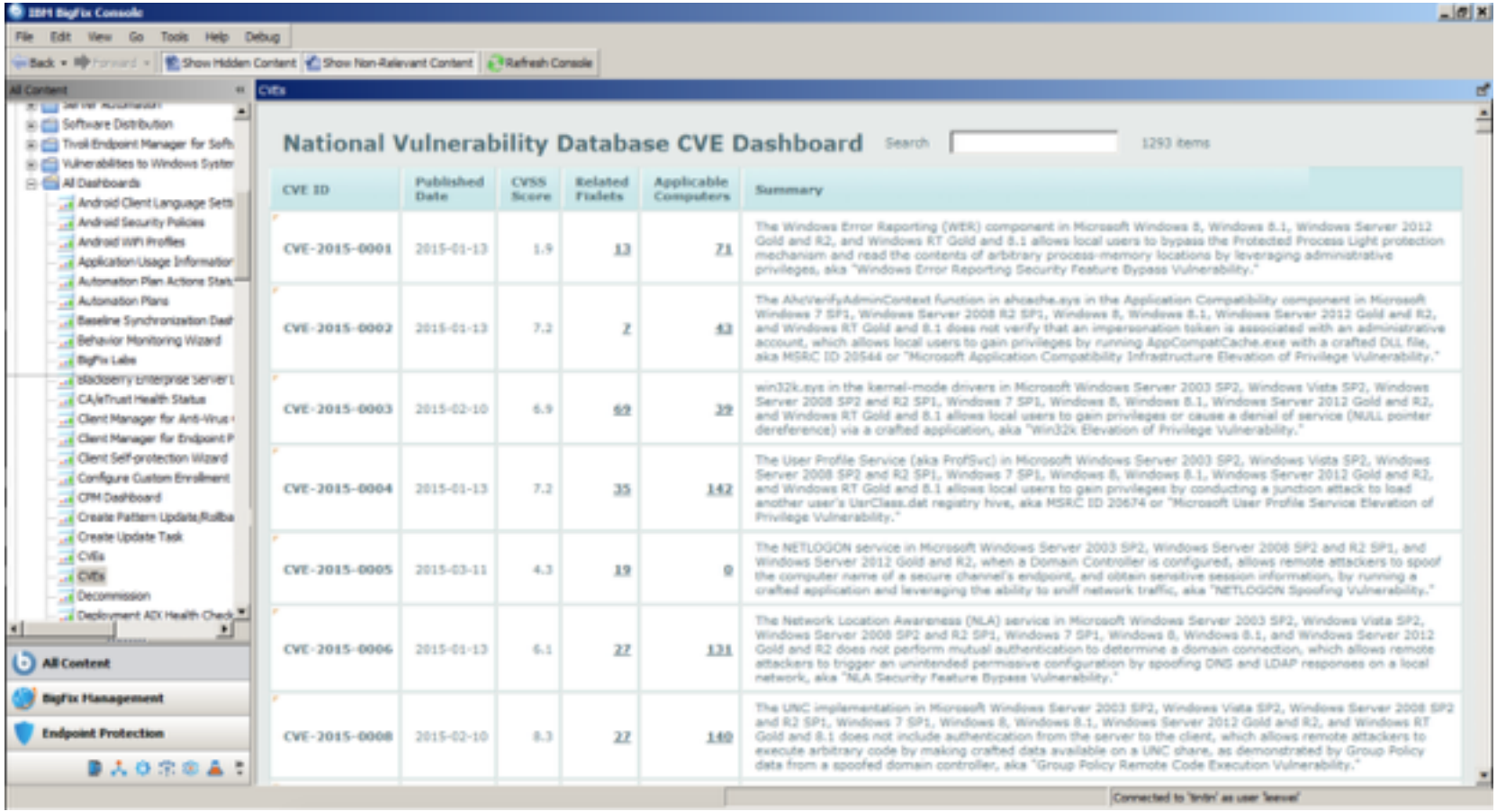
REST API – Example Excel Connector



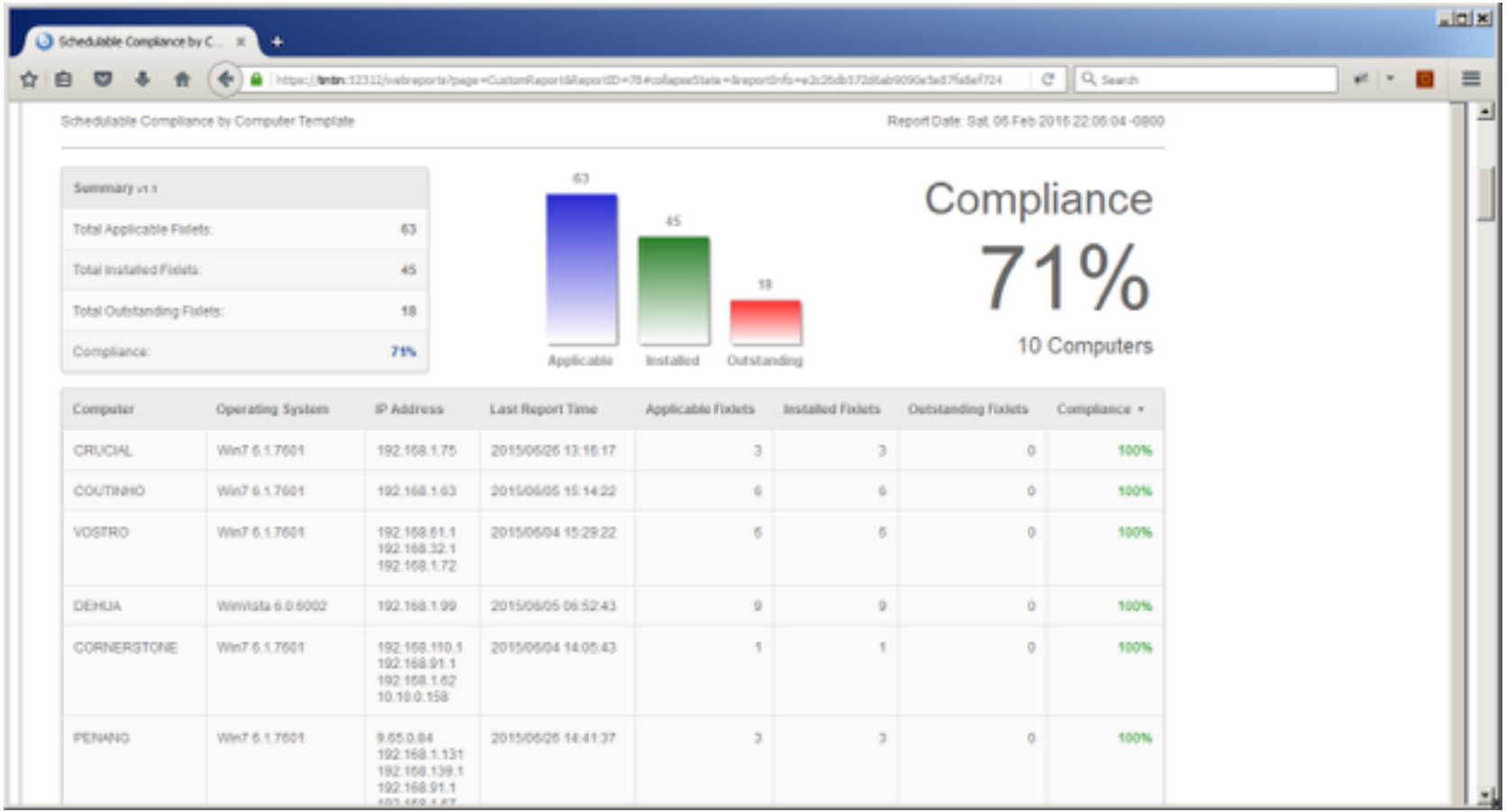
Dashboard API

- Provides an interface to author own dashboard, create customize views
- Manifests as:
  - Custom report in Web Reports
  - Dashboard in the Console
  - Wizard in the Console
- Uses XML to hook into Console and Web Reports
- Typical technologies used:
  - Data extraction: Session Relevance
  - Logic processing: JavaScript
  - Presentation formatting: HTML

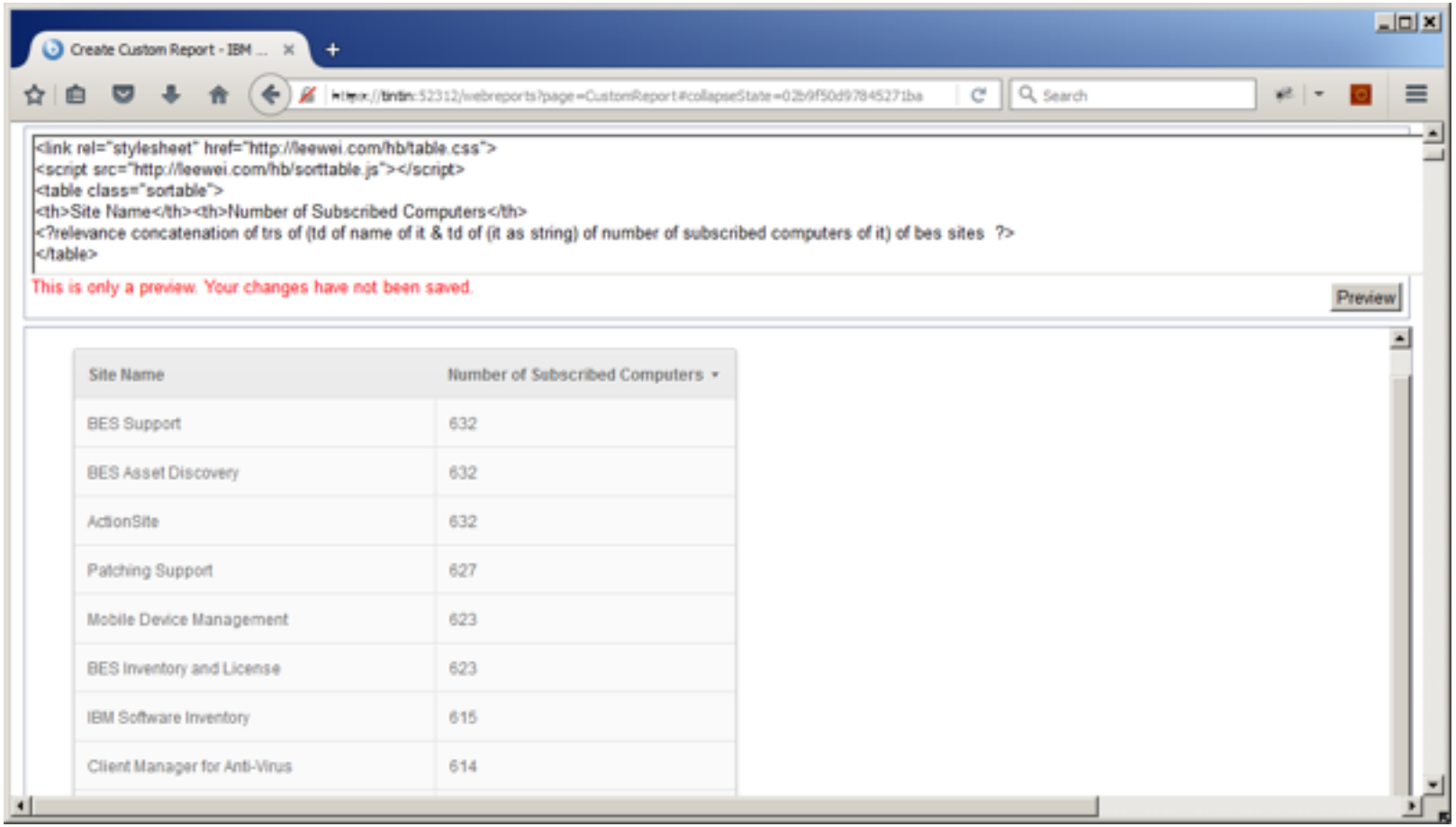
Dashboard API



Web Reports


Schedulable Compliance by C...
Schedulable Compliance by Computer Template
Report Date: Sat, 06 Feb 2016 22:05:04 -0800
Summary v1.1
Total Applicable Fixlets: 63
Total Installed Fixlets: 45
Total Outstanding Fixlets: 18
Compliance: 71%
63
45
18
Applicable
Installed
Outstanding
Compliance
71%
10 Computers
Computer | Operating System | IP Address | Last Report Time | Applicable Fixlets | Installed Fixlets | Outstanding Fixlets | Compliance
CRUCIAL | Win7 6.1.7601 | 192.168.1.75 | 2015/06/26 13:16:17 | 3 | 3 | 0 | 100%
COUTINHO | Win7 6.1.7601 | 192.168.1.63 | 2015/06/05 15:14:22 | 6 | 6 | 0 | 100%
VOSTRO | Win7 6.1.7601 | 192.168.61.1 192.168.32.1 192.168.1.72 | 2015/06/04 15:29:22 | 6 | 6 | 0 | 100%
DEHUA | WinVista 6.0.6002 | 192.168.1.99 | 2015/06/05 06:52:43 | 9 | 9 | 0 | 100%
CORNERSTONE | Win7 6.1.7601 | 192.168.110.1 192.168.91.1 192.168.1.62 10.10.0.158 | 2015/06/04 14:05:43 | 1 | 1 | 0 | 100%
PENANG | Win7 6.1.7601 | 9.65.0.84 192.168.1.131 192.168.139.1 192.168.91.1 | 2015/06/26 14:41:37 | 3 | 3 | 0 | 100%

Web Reports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</table>
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Preview
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BES Asset Discovery
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ActionSite
632
Patching Support
627
Mobile Device Management
623
BES Inventory and License
623
IBM Software Inventory
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Client Manager for Anti-Virus
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