

IBM Application Runtime Expert for i

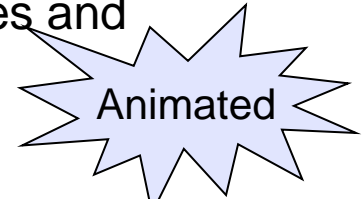
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Problem – Application not working/starting – How do you check all files and directories that can affect your application?



Application Runtime dirs/files



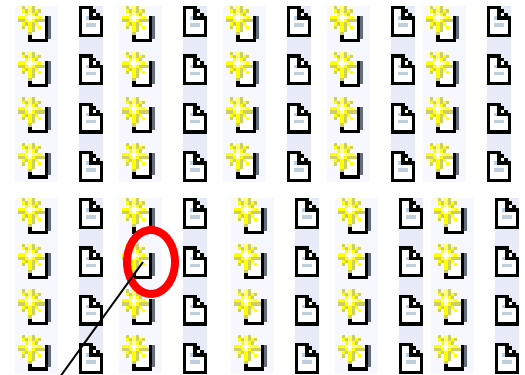
File restored off backup – Owner now incorrect

File is supposed to be a Symbolic link – Now a real file!

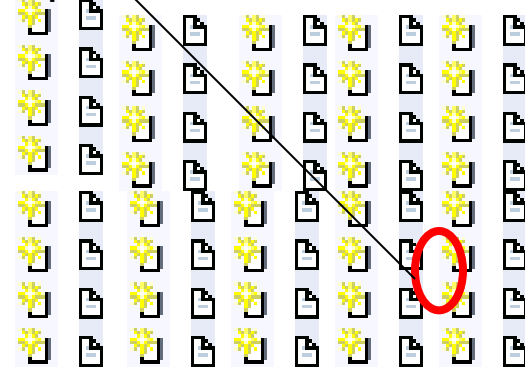
/dev directory has *PUBLIC *EXCLUDE permissions
File is missing!

Create date on file is wrong! Test patch that was never cleaned up!

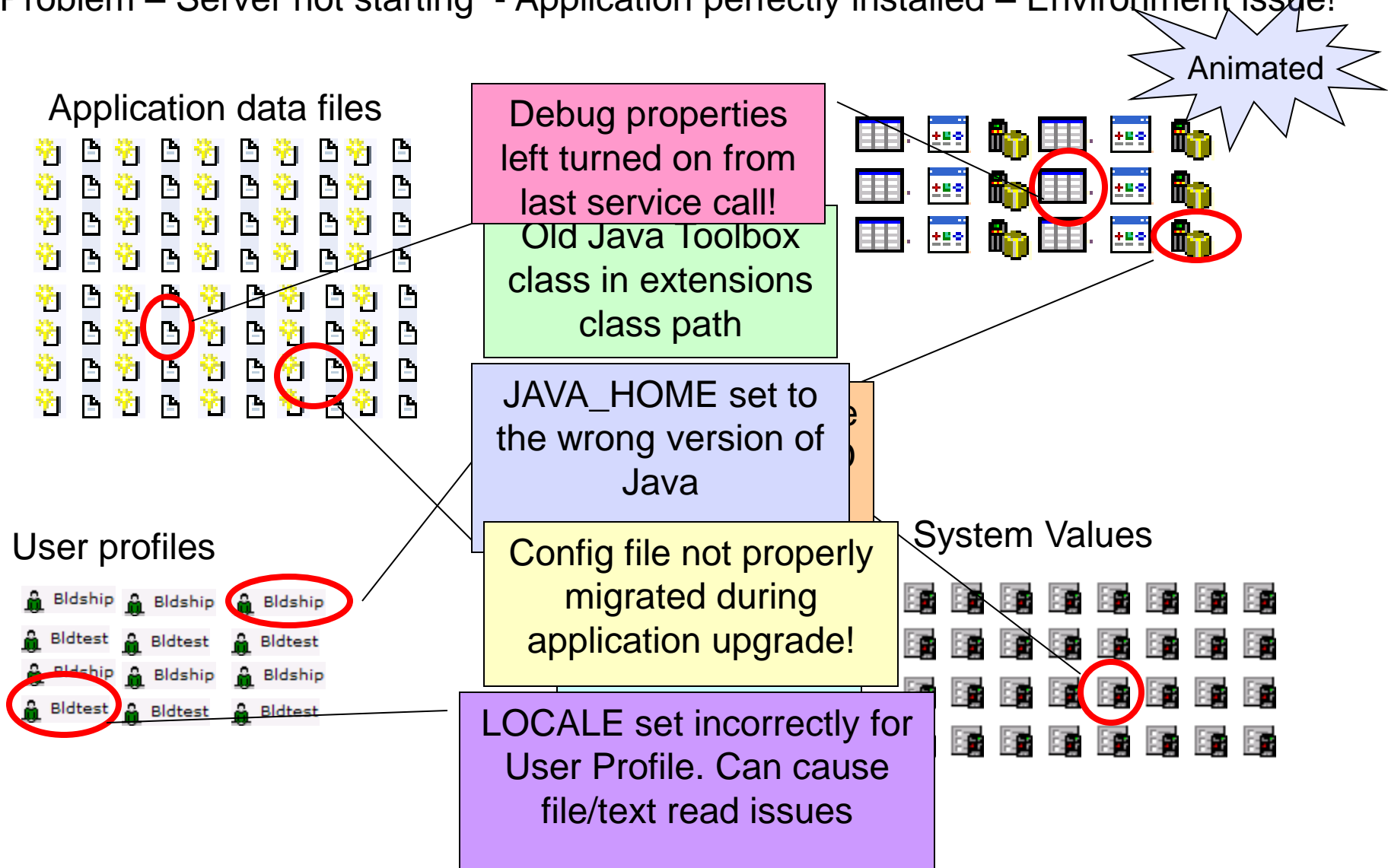
Application data files



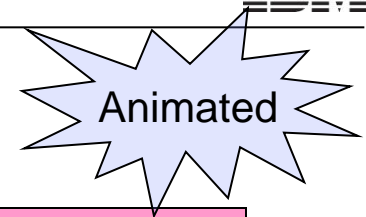
Dependent OS dirs/files



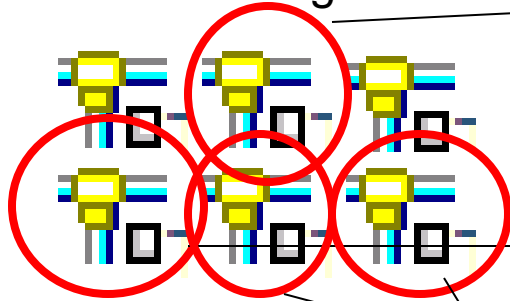
Problem – Server not starting - Application perfectly installed – Environment issue!



Problem – Application running dreadfully slow! - Network issues



TCP/IP Configuration



DNS Search order set to *REMOTE, should be *LOCAL

DNS server is not configured correctly. DNS look up timing out causing significant application delays

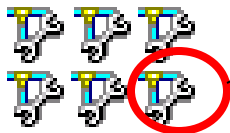
Servers



/etc/netsvc.conf overriding the CFG

System name not the same between CFGTCP option 12 and the System name in the NETWORK Attributes table

Network Attributes




Host servers not running

Localhost or Loopback not configured

System Attributes

 Products installed

 Run Check Prod

 Group PTFs Levels

 Individual PTFs Installed

 User Profiles


 System Values

 Exit Points

 TCP/IP configuration

 Network setting

 DNS Working

 Additional custom plugins

 LAN Tap Varied On

 System Date = Today

 User Servers Active

Application Attributes



Java Environment



User Authorities



RPG or C PGMs



File Authorities



File – Size, Existence, Dates



Data Authorities



Directories – Existence, Dates



XML File Attributes



Environment Variables



Property File Attributes



File Ownership



Ports

IBM Application Runtime Expert for i – What is it?

- Automated tool to verify physical condition and runtime attributes
 - Applications
 - Systems
 - Environments
- **Ability to fix detected problems**
 - Fix User Profiles to known values
 - Fix Authorities on files and directories
- Verify multiple systems

IBM Application Runtime Expert for i

Home > Plugin Selection and Customization

Plugin Selection and Customization

Select and Customize Plugins For Template

Template name: **MyTemplate6** [? Learn more...](#)

Files and Directories

- File and Directory Attributes** [Edit](#) [Remove](#) [? Learn more...](#)
Verify attributes such as existence, creation date, size, and more, for files and directories in IFS and objects in the Library
- File and Directory Authorities** [Edit](#) [Remove](#) [? Learn more...](#)
Verify authorities such as owner, authorization list, and private authorities for files and directories in IFS and objects in the
- Configuration Files** [Edit](#) [Remove](#) [? Learn more...](#)
Verify the contents of configuration files.

Software Requirements

IBM Application Runtime Expert for i – What is it?

- What can be verified ?
 - System information
 - Create a system profile
 - An IBM i Product
 - Any application on the IBM i
 - WebSphere Application Server
 - Integrated Web Application Server
 - User created application deployment
 - Directory tree
 - RPG application

- Write your own plugins
 - Your own custom objects!



RPG



IBM Application Runtime Expert for i – Why use it?

■ Enhanced Serviceability

- Run on failing system to identify and **fix** problems
- One tool to check the entire software stack
 - Application, DB, TCP/IP, Security, JVM, QShell, PASE, etc
 - Results are consolidated into a *single* report
- Runtime Expert will check everything, every time
- As new problems are found, new checks can be added
 - Update existing template to add new checks
 - Write custom plugins for more sophisticated checking or analysis



■ Product Testing

- Understand product installation
 - Are all authorities and object owners being consistently set?
 - Are all files getting installed in the expected locations with the right attributes?
 - Forces “loose ends” to be taken care of so that Runtime Expert report is clean
- Build verification

IBM Application Runtime Expert for i – Why use it?

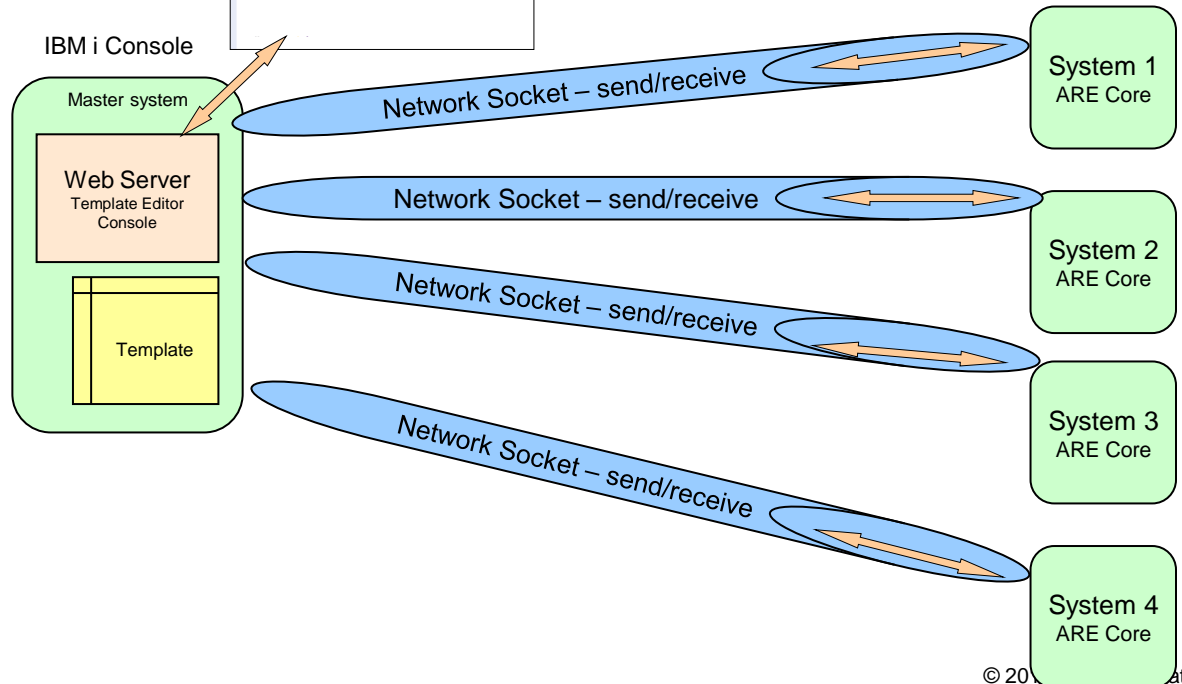
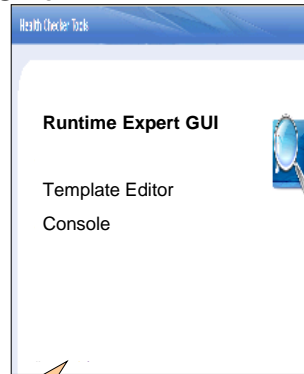
- System Validation
 - Ensure your internal systems are in expected state
 - Help debug issues with internal systems

- It has proven itself for our products
 - IAS and IBM Web Administration for i
 - Using for over a year with fantastic results
 - WebQuery
 - Internally for Translation Verification Test (28 partitions)
 - NLS settings, PTF levels, Group PTF levels, User profiles, System date set to 'today', verify *LANTAP was varied on, System value settings
 - Beta program, System integrator, built system template for system he saw monthly.
What changed?



Console

- Create template on 'Master system'
- Run against any system in your environment
 - Template read from master system
 - Real time status updates
 - Output pushed back
- **PUSH** Fix updates to remote systems



Total Landscape Monitoring

- Check configuration of multiple partitions at once
- Or choose a template for each system

Systems to verify:

	System name	User profile	Password	Template
<input checked="" type="checkbox"/>	system1	user1	●●●●●●●●	demoTemplate ▼
<input checked="" type="checkbox"/>	system2	user1	●●●●●●●●	demoTemplate ▼
<input checked="" type="checkbox"/>	system3	user1	●●●●●●●●	systemCheck ▼
<input checked="" type="checkbox"/>	system4	user1	●●●●●●●●	systemCheck ▼

Add

Remove

Select all

Deselect all

Runtime properties

Note: Only selected systems will be verified.

Verify systems

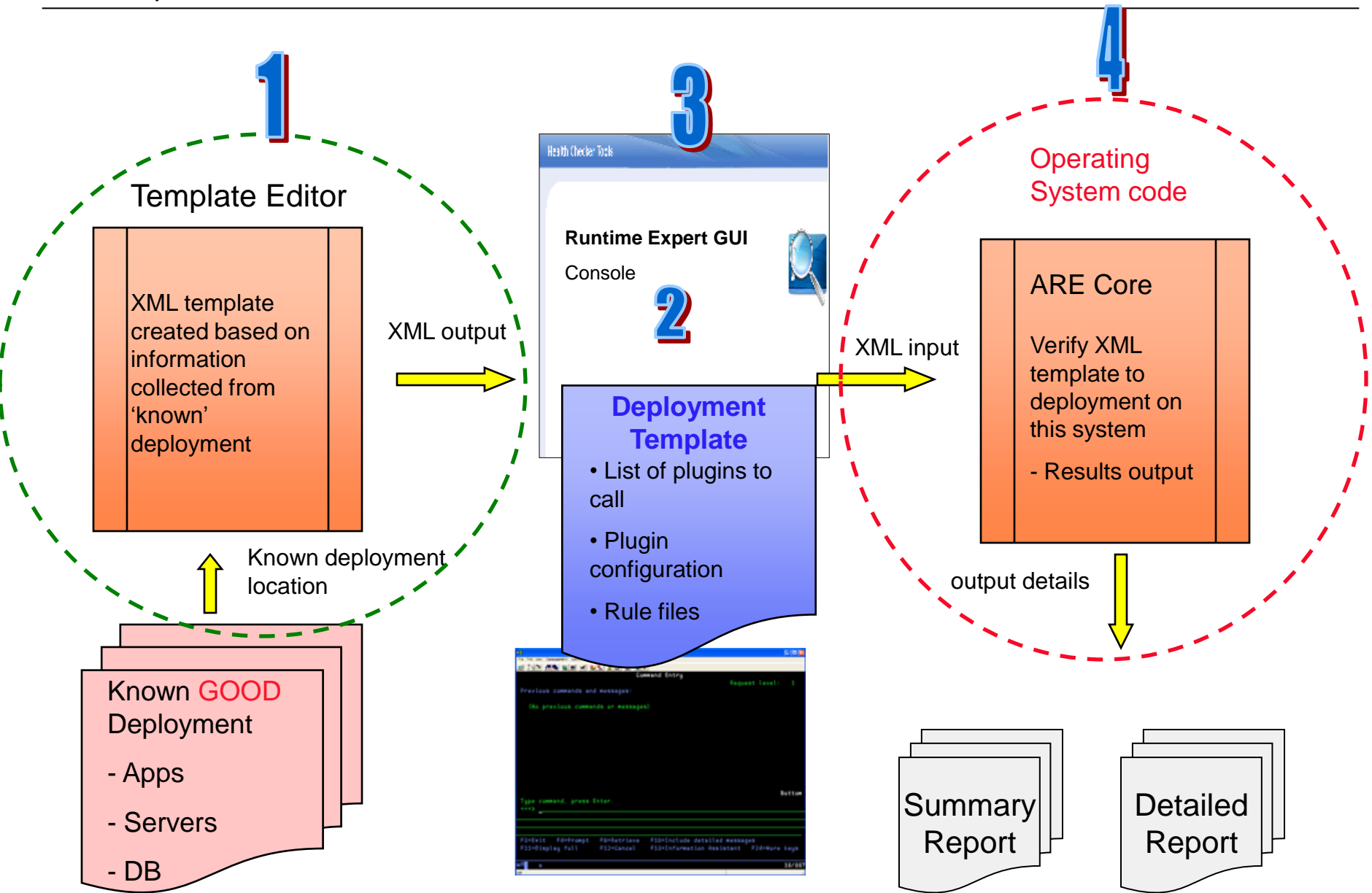
View previous results

System verification status:

4/4 complete

Refresh

System name	Status	Result
system1	Complete	<input checked="" type="checkbox"/> No problems found.
system2	Complete	<input checked="" type="checkbox"/> 23 errors, 0 warnings
system3	Complete	<input checked="" type="checkbox"/> 32 errors, 0 warnings
system4	Complete	<input checked="" type="checkbox"/> 23 errors, 0 warnings



Demo

Manage templates

- Update
- Import
- Create

Deployment Template Editor

The Deployment Template Editor allows users to create, edit, import and export deployment templates. The editor enables users to customize their templates. Templates created, imported, or edited using this editor can be used to verify systems using the 'Launch console' button below. [? Learn more...](#)

Manage templates:

	Name
<input checked="" type="radio"/>	AREDemo4
<input type="radio"/>	AREProductVerification
<input type="radio"/>	AutoFixTemplate
<input type="radio"/>	CommonDemo
<input type="radio"/>	DCMDemo
<input type="radio"/>	skftest

Create ▾ Import ▾ Actions ▾

Launch Name Create



Launch the Create template wizard

[Home](#) > Plugin Selection and Customization

Plugin Selection and Customization

Select and Customize Plugins For Template

Template name: **MyTemplate2** [? Learn more...](#)



Files and Directories



[File and Directory Attributes](#)

[Edit](#) [Remove](#) [? Learn more...](#)

Verify attributes such as existence, creation date, size, and more, for files and directories in IFS and objects in the Library file system.



[File and Directory Authorities](#)

[Edit](#) [Remove](#) [? Learn more...](#)

Verify authorities such as owner, authorization list, and private authorities for files and directories in IFS and objects in the Library file system.



[Configuration Files](#)

[Edit](#) [Remove](#) [? Learn more...](#)

Verify the contents of configuration files.



Software Requirements



Network



System Environment



Advanced

Click to collect info for a plugin

Open to see the available plugins

Build template

Cancel

Home > Plugin Selection and Customization > File and Directory Authorities

File and Directory Authorities

Create Collections of Files, Directories, and Libraries



Files, directories, and libraries to collect information [? Learn more...](#)

Collection name	Data authority	Object authority	Owner	Primary group	Authorization list
<input checked="" type="radio"/> HCDemoServer	✓	✓	✓	✓	✓

Add files/directories

Add libraries

Remove

Update

Edit XML

Test

OK

Cancel

-Add authority profiles for

- Files/Directories

- Libraries

-View and work with XML

-Create multiple 'collections' to customize what attributes are verified

Home > Plugin Selection and Customization > File and Directory Authorities > Select Files and Directories

Select Files and Directories

Select Files and Directories to Include in the Collection

Integrated File System view

Use file browser to select files and directories

Legend

- The entire directory tree is selected
- Only the directory is selected
- The directory and/or some portions of its sub-tree are selected
- Directory is not selected

Collection name:

Attributes [? Learn more...](#)

- Data authority
- Object authority
- Owner
- Primary group
- Authorization list

Advanced

Specify which attributes to verify

Edit XML

Advanced feature: Hand edit the actual XML data

OK

Cancel

Edit view

```
<?xml version="1.0" encoding="UTF-8"?><authoritySet version="1.0">
  <authorities>
    <gui-mapping>
      <fileSelection name="/www/hcdemo" selectSubTree="true"/>
      <followSymlink value="false"/>
      <checksum value="ae378cd2fee4fd53f5dd2e9fefc7c5e1"/>
    </gui-mapping>
    <!--#! Be careful of modifying any node below, they are generated according to the configuration information above. If mc
    <enableCheck name="dataAuthority"/>
    <enableCheck name="objectAuthority"/>
    <enableCheck name="owner"/>
    <enableCheck name="primaryGroup"/>
    <enableCheck name="authorizationList"/>
    <object authList="*NONE" errorLevel="error" name="/www/hcdemo" owner="RAOP" primaryGroup="*NONE" type="DIR">
      <privateAuthority dataAuth="*RWX" errorLevel="error" objAuth="*ALL" user="RAOP"/>
      <privateAuthority dataAuth="*RX" errorLevel="error" objAuth="*NONE" user="QLWISVR"/>
      <privateAuthority dataAuth="*RX" errorLevel="error" objAuth="*NONE" user="*PUBLIC"/>
      <privateAuthority dataAuth="*RWX" errorLevel="error" objAuth="*NONE" user="QTMHHTTP"/>
    </object>
    <object authList="*NONE" errorLevel="error" name="/www/hcdemo/conf" owner="RAOP" primaryGroup="*NONE" type="DIR">
      <privateAuthority dataAuth="*RWX" errorLevel="error" objAuth="*ALL" user="RAOP"/>
      <privateAuthority dataAuth="*RX" errorLevel="error" objAuth="*NONE" user="QLWISVR"/>
      <privateAuthority dataAuth="*RX" errorLevel="error" objAuth="*NONE" user="*PUBLIC"/>
      <privateAuthority dataAuth="*RWX" errorLevel="error" objAuth="*NONE" user="QTMHHTTP"/>
    </object>
```

Customize the XML data

Add Logic, change values, and responses

IBM Application Runtime Expert for i



Home > Plugin Selection and Customization > IBM i Products

IBM i Products

Select the IBM i Products to Verify



Products [? Learn more...](#)

Licensed program	Option	Release	Status
5761SS1	5	V6R1M0	*INSTALLED
5761SS1	6	V6R1M0	*INSTALLED
5761SS1	7	V6R1M0	*INSTALLED
5761SS1	8	V6R1M0	*INSTALLED
5761SS1	9	V6R1M0	*INSTALLED
5761SS1	13	V6R1M0	*INSTALLED
5761SS1	14	V6R1M0	*INSTALLED
5761SS1	18	V6R1M0	*INSTALLED
5761SS1	21	V6R1M0	*INSTALLED
5761SS1	22	V6R1M0	*INSTALLED
5761SS1	23	V6R1M0	*INSTALLED
5761SS1	26	V6R1M0	*INSTALLED
5761SS1	27	V6R1M0	*INSTALLED
5761SS1	29	V6R1M0	*INSTALLED

Products to verify [? Learn more...](#)

Licensed program	Option	Release	CHKPRDOPT	Severity
5761DG1	*BASE	V6R1M0	<input type="checkbox"/>	Error
5761JV1	11	V6R1M0	<input checked="" type="checkbox"/>	Warning
5761SS1	3	V6R1M0	<input type="checkbox"/>	Error
5761SS1	12	V6R1M0	<input type="checkbox"/>	Error
5761SS1	30	V6R1M0	<input type="checkbox"/>	Error
5761SS1	33	V6R1M0	<input checked="" type="checkbox"/>	Error



4/7
 Position to:

Customize report info!

- Error
- Warning
- Info

Filter – all supported products or products on this system

Home > Plugin Selection and Customization > User IDs > Edit User ID Collection

Edit User ID Collection

Select User IDs to Verify



Specify the user ID attributes to verify

All user IDs on the system [? Learn more...](#)

- USER03
- USER04
- USER05
- USER06
- USER07
- USER08
- USER09
- USER10
- USER11
- USER12

13/17

Position to:

Collection name:

'Position to' auto navigates to specified value!

User IDs to verify [? Learn more...](#)

Attributes to verify:

- CCSID
- Character ID
- Country ID
- Group Authority
- Group Authority Type
- Group Profile
- Job Description
- Language ID
- Limit Capabilities
- Locale
- Message Queue
- Output Queue
- Owner
- Password is *NONE
- Special Authority
- Special Environment
- Status
- Supplemental Group
- User Class

All users specified here will verify all attributes listed to the right. Create multiple collections to use different attribute lists.

Home > Plugin Selection and Customization > PTFs

PTFs

Select the Group and Individual PTFs to Verify

List all PTF groups on the system

PTF groups to verify [Learn more...](#)

PTF group	Minimum level	Recommended level	Severity
<input type="radio"/> SF99368	2	2	Error <input type="button" value="v"/>
<input type="radio"/> SF99572	3	3	Error <input type="button" value="v"/>

PTFs to verify [Learn more...](#)

PTF	Expected status	Severity
<input type="checkbox"/> 5770999 -- Licensed Internal Code		
<input type="checkbox"/> 5770SS1 -- IBM i		
<input type="checkbox"/> 5770SS1 -- Extended Base Support		
<input type="checkbox"/> 5770SS1 -- Extended Base Directory Support		
<input type="checkbox"/> 5770SS1 -- System/36 Environment		
<input type="checkbox"/> 5770SS1 -- Host Servers		
<input type="checkbox"/> 5770SS1 -- System Openness Includes		
<input type="checkbox"/> 5770SS1 -- Integrated Server Support		
<input type="checkbox"/> 5770SS1 -- Qshell		
<input type="checkbox"/> 5770SS1 -- Domain Name System		
<input type="checkbox"/> 5770SS1 -- Portable App Solutions Environment		
<input type="checkbox"/> 5770SS1 -- Digital Certificate Manager		

Collect all PTF Groups for this system, or click add to include additional groups and levels



Select the PTFs currently on this system

IBM Application Runtime Expert for i

IBM

[Home](#) > [Plugin Selection and Customization](#) > [Configuration Files](#)

Configuration Files

Specify Configuration Files to Verify



Configuration files [? Learn more...](#)

Configuration file	Type
<input checked="" type="radio"/> /www/INTAPPSVR/conf/i5OSStartup.properties	Property

Verify the actual contents of

- Property files
- XML files
- HTTP config files

Home > Plugin Selection and Customization > Configuration Files > Customize Configuration File

Customize Configuration File

Select Configuration Values to Verify



Configuration file: /www/INTAPPSVR/conf/i5OSStartup.properties

Key	Expected value
<input type="checkbox"/> startup.lwiAssignUserID	QLWISVR
<input type="checkbox"/> startup.lwiSubsystem	QHTTPSVR
<input type="checkbox"/> engine.lwiVersion	8.1
<input type="checkbox"/> engine.workingDir	/www/INTAPPSVR/lwi
<input type="checkbox"/> engine.javaVersion	1.6
<input type="checkbox"/> startup.lwiJobQueueName	QZHBHTTP
<input type="checkbox"/> startup.lwiAssignJobName	INTAPPSVR
<input type="checkbox"/> engine.stderr	/www/INTAPPSVR/lwi/logs/lwistderr.txt
<input type="checkbox"/> engine.stdout	/www/INTAPPSVR/lwi/logs/lwistdout.txt
<input type="checkbox"/> engine.lwiProfile	profile.l5intappsvr

Add

OK

Cancel

Compare the key value pairs!!

[Home](#) > [Plugin Selection and Customization](#) > Network Configuration

Network Configuration

Verify IBM i Network Configuration



Verify TCP/IP Configuration

[? Learn more...](#)

- ✓ Domain information
- ✓ Host table entries
- ✓ Interfaces

Verify DNS Lookup Performance and Correctness

[? Learn more...](#)

- ✓ Retrieve IP address for local host
- ✓ Retrieve IP address for loopback
- ✓ Retrieve the host name for IP address 127.0.0.1

OK

Cancel

Include the Network plugin your template. When Application Runtime Expert runs, the network settings on the target system are verified

IBM Application Runtime Expert for i



Home > Plugin Selection and Customization > Summary

Summary

Deployment Template Build Summary

Template Summary

File and Directory Authorities

IBM i Products

User IDs

Generated template file name: /QIBM/UserData/ARE/workspace/templates/MyFirstTemplate/MyFirstTemplate.jar

Version: 1.0.1

Description: Template created by the IBM Application Runtime Expert for i.

Features enabled:

- Capability to fix detected problems

**Review all the values you specified
and we collected**

Click confirm to build template

Confirm

Cancel

Deployment Template Editor

The Deployment Template Editor allows users to create, edit, import and export deployment templates. The editor enables users to customize their templates. Templates created, imported, or edited using this editor can be used to verify systems using the 'Launch console' button below. [? Learn more...](#)

Manage templates:

Name
<input checked="" type="radio"/> MyFirstTemplate

Create ▾

Import ▾

Actions ▾

Launch console



Message Area

The following template has been successfully built:
MyFirstTemplate.

Console

The IBM Application Runtime Expert for i is capable of verifying multiple IBM i systems using a deployment template created or importing using the deployment template editor. [? Learn more...](#)

Collections:

Default

Demo

Operations ▾

Systems to verify:

	System name	User profile	Password	Template
<input checked="" type="checkbox"/>	system1	user1		areDemo ▾
<input checked="" type="checkbox"/>	system2	user1		areDemo ▾
<input checked="" type="checkbox"/>	system3	user1		areDemo ▾
<input checked="" type="checkbox"/>	system4	user1		areDemo ▾
<input checked="" type="checkbox"/>	system5	user1		areDemo ▾

Add
Remove
Select all
Deselect all
Runtime properties

Note: Only selected systems will be verified.

Verify systems
View previous results

[Launch deployment template editor](#)

- Verify multiple systems using templates built using template editor
 - No need to put template on each system
 - Results of verification pulled into the Console and displayed
- Capability to fix detected problems

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Power your planet.






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IBM Application Runtime Expert for i

Console > Result

Console

System verification status: 0/5 complete  Refresh

System name	Template	Status	Result
system1	areDemo	 Processing	
system2	areDemo	 Processing	
system3	areDemo	 Processing	
system4	areDemo	 Processing	
system5	areDemo	 Processing	

Back

Stop all

Follow the progress of each template as it runs on the target systems

Auto refresh every few seconds or click 'Refresh' to check more often

Click 'Stop all' to stop the process from running on the target system






IBM Application Runtime Expert for i

[Console](#) > Result**Console****Verification status updated in real time**

System verification status:

0/5 complete

 Refresh

System name	Template	Status	Result
system1	areDemo	 Plugin 2 of 8 (Authority Verifier) has started	
system2	areDemo	 Plugin 5 of 8 (Network Configuration Checker) has started	
system3	areDemo	 Plugin 2 of 8 (Authority Verifier) has started	
system4	areDemo	 Plugin 2 of 8 (Authority Verifier) has started	
system5	areDemo	 Processing	

[Back](#)[Stop all](#)

IBM Application Runtime Expert for i

Console > Result

Console

Table summarizes results for every system verified

System verification status: 5/5 complete Refresh

System name	Template	Status	Result
system1	areDemo	Complete	7 errors, 0 warnings
system2	areDemo	Complete	No problems found.
system3	areDemo	Complete	8 errors, 0 warnings
system4	areDemo	Complete	4 errors, 0 warnings
system5	areDemo	Complete	No problems found.

- [Summary Report](#)
- [Detailed Report](#)
- [XML Report](#)
- [Runtime Log](#)

Summary and detailed reports are just a click away

[Console](#) > [Result](#) > Summary Report

Summary Report

System name: system1

Remote core version: 1.0.3

Template: areDemo

User ID: USER1

Summary report lists attributes verified and problems found

Summary details [? Learn more...](#)

Plugin name	Attributes verified	Error	Warning	Info	Fix actions
✔ File Attribute Verifier	8068	0	0	0	None
✘ Authority Verifier	8074	3	0	0	Fix actions(3)
Description					
✘ User USER1 has no data authority to object /home/user1					
✘ User USER1 has no object authority to /home/user1					
✘ Owner of /home/user1 is not what is expected Expected: USER1 Actual: QSYS					
✔ Configuration Attribute Verifier	110	0	0	0	None
✔ Network Verifier	0	0	0	0	None
✔ Network Configuration Checker	0	0	0	0	None
✔ Product Verifier	5	0	0	0	None
✘ User Profile Verifier	54	4	0	0	Fix actions(3)
✔ System Value Verifier	5	0	0	0	None

Drill down to see problem details

Click to fix problems

[Console](#) > [Result](#) > [Summary Report](#) > Fix Problems

Fix Problems

System name: system1

Problems found by: Authority Verifier

Select	Description
<input checked="" type="checkbox"/>	Description: User USER1 has no data authority to object /home/user1
<input checked="" type="checkbox"/>	Description: User USER1 has no object authority to /home/user1
<input checked="" type="checkbox"/>	Description: Owner of /home/user1 is not what is expected

Select problems to fix

▼ Processed problems

Result	Description
<i>This table is empty.</i>	

Click on 'Fix' to correct these selected issues on the target system

[Console](#) > [Result](#) > [Summary Report](#) > Fix Problems

Fix Problems

System name: system1

Problems found by: Authority Verifier

Select Description

This table is empty.

Select all

Deselect all

▼ Processed problems

Result	Description
Fixed	<input checked="" type="checkbox"/> User USER1 has no data authority to object /home/user1
Fixed	<input checked="" type="checkbox"/> User USER1 has no object authority to /home/user1
Fixed	<input checked="" type="checkbox"/> Owner of /home/user1 is not what is expected Expected: USER1 Actual: QSYS

Monitor results as fix is completed on the remote system

Fix

Back

Advanced Capabilities

- Symbolic links – can choose whether or not to follow them

- Substitution Variables
 - Part of application/product path is not fixed
 - Application user profile may not be constant
 - Some other aspect of application may vary from system to system

- Customize template XML files
 - Add logic (if, switch) for
 - OS level
 - Product installed
 - Missing files
 - Etc

Building Custom Plugins

- Problem: ARE can verify many application and system attributes, but not everything

- Applications may have files, data, or settings to verify that are not covered by ARE
 - Attributes of a database table
 - Application specific system settings
 - Performance tuning: memory pools, max active jobs, etc

- Solution: Build custom plugins to verify items not covered by ARE verification

Building Custom Plugins

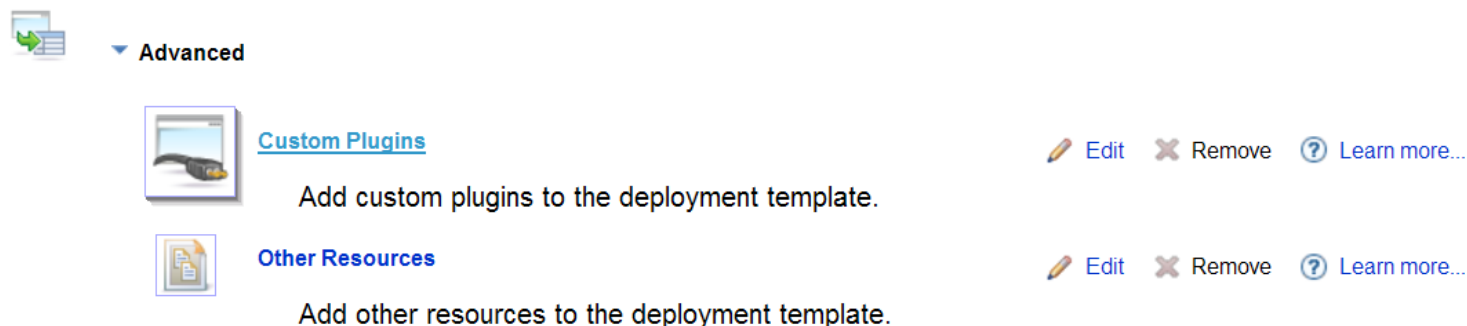
- All verification in the ARE is performed by plugins
 - Plugins shipped by IBM perform verification that includes:
 - Authority
 - File attributes
 - PTFs
 - User IDs
 - Configuration
 - IBM i products
 - System values
 - Network
 - Libraries
 - Plugins are all Java classes
 - Extend the `com.ibm.are.plugin.BasePlugin` class

Building Custom Plugins

- Use the same architecture as the pre-packaged plugins
- Simple and safe way to augment existing support
 - **Run your own plugins along with plugins provided by the ARE Core**
 - Very powerful: provides access to all the capabilities of Java, Toolbox, and more
- Flexible development
 - IBM (Development, Support, Consultants, etc)
 - Customers (In house development)
 - Business Partners
- Opens the scope of verification support to include:
 - Performance
 - System audit capabilities
 - Application specific settings
- Nearly unlimited ability to customize verification of applications

Building Custom Plugins

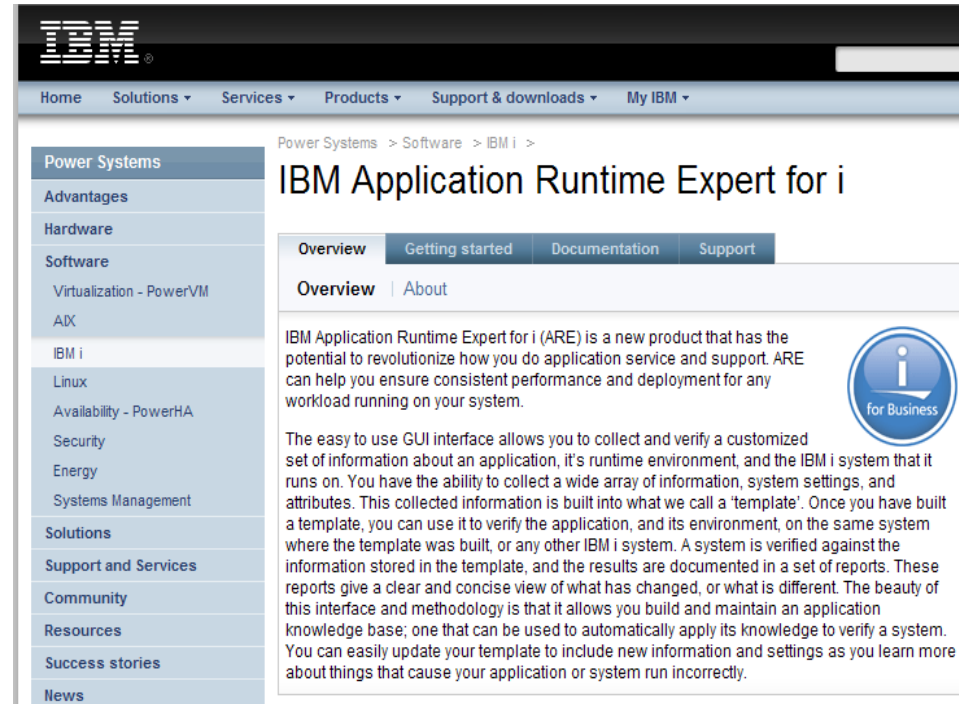
- Simple to create and deploy
 - Basic Java skills
 - Very little knowledge of ARE architecture or implementation needed
- Insert directly into template(s) using Template Editor GUI



- Step by step guide available on ARE product Web site
- Build your first Custom Plugin in a couple of hours!

How do you get it

- New Product – 5733ARE
 - GA was June 18th
 - Requires latest HTTP and Java Group PTFs



The screenshot shows the IBM website for the 'IBM Application Runtime Expert for i' product. The page has a navigation bar with 'Home', 'Solutions', 'Services', 'Products', 'Support & downloads', and 'My IBM'. A left sidebar lists categories like 'Power Systems', 'Advantages', 'Hardware', 'Software', 'Virtualization - PowerVM', 'AIx', 'IBM i', 'Linux', 'Availability - PowerHA', 'Security', 'Energy', 'Systems Management', 'Solutions', 'Support and Services', 'Community', 'Resources', 'Success stories', and 'News'. The main content area features the product title, a breadcrumb trail 'Power Systems > Software > IBM i >', and tabs for 'Overview', 'Getting started', 'Documentation', and 'Support'. The 'Overview' tab is active, showing a description of the product and a 'for Business' icon.

- Articles
 - Turning Big Problems Into Small Ones
http://www.ibmssystemsmag.com/ibmi/application_runtime_expert/33004p1.aspx
 - You and i – ARE Solving Problems http://ibmsystemsmag.blogs.com/you_and_i/2010/07/you-and-i-are-solving-problems.html
 - Do You Need an Application Runtime Expert?
<http://ibmsystemsmag.blogs.com/idevelop/2010/07/do-you-need-an-application-runtime-expert.html>
- Product Web site contains install instructions, fix information, and documentation
 - <http://www.ibm.com/systems/power/software/i/are/index.html>

Something for free?

- IBM i OS is shipping a handful of ready made templates!!

Network checking

- Run the network plugin
- TCP config verification
- Verify DNS servers

Pre-Checker

- Verify the Java environment
- Verify the condition of PASE
- IBM toolbox for Java
- Verify QSH

Host Servers

- Verify the Host Servers are active

Basic IAS Server Verify

- Specify IAS server name
- Basic IAS server infrastructure



OS Based Template Details

- New Script
- Run from QSH

```
/QIBM/ProdData/OS/OSGi/templates/bin/areVerify.sh
```

```
Usage: areVerify.sh <parameter>
```

```
Valid parameter:
```

```
-network           : Verify network configuration and status  
-iasserver server_name : Verify the 'server_name' IAS server  
-precheck         : Verify software products that are necessary to use  
                   the IBM Application Runtime Expert for i  
-hostservers      : Verify the host servers are active
```

Availability – Latest HTTP PTF Group plus

- **6.1 - SI41410**
- **7.1 - SI41413**

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