

Research IT Clinic / Open House

Hosting Applications in the New Research Network

Tools and Options for Hosted Applications

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Agenda

- Introductions
- Review of May Open House (Bubble Security Policy)
- Access Tools / Options
- Management Tools
- Migration / Development / Deployment Steps
- Development Tools / Services
- Conclusion / Q&A

Introductions

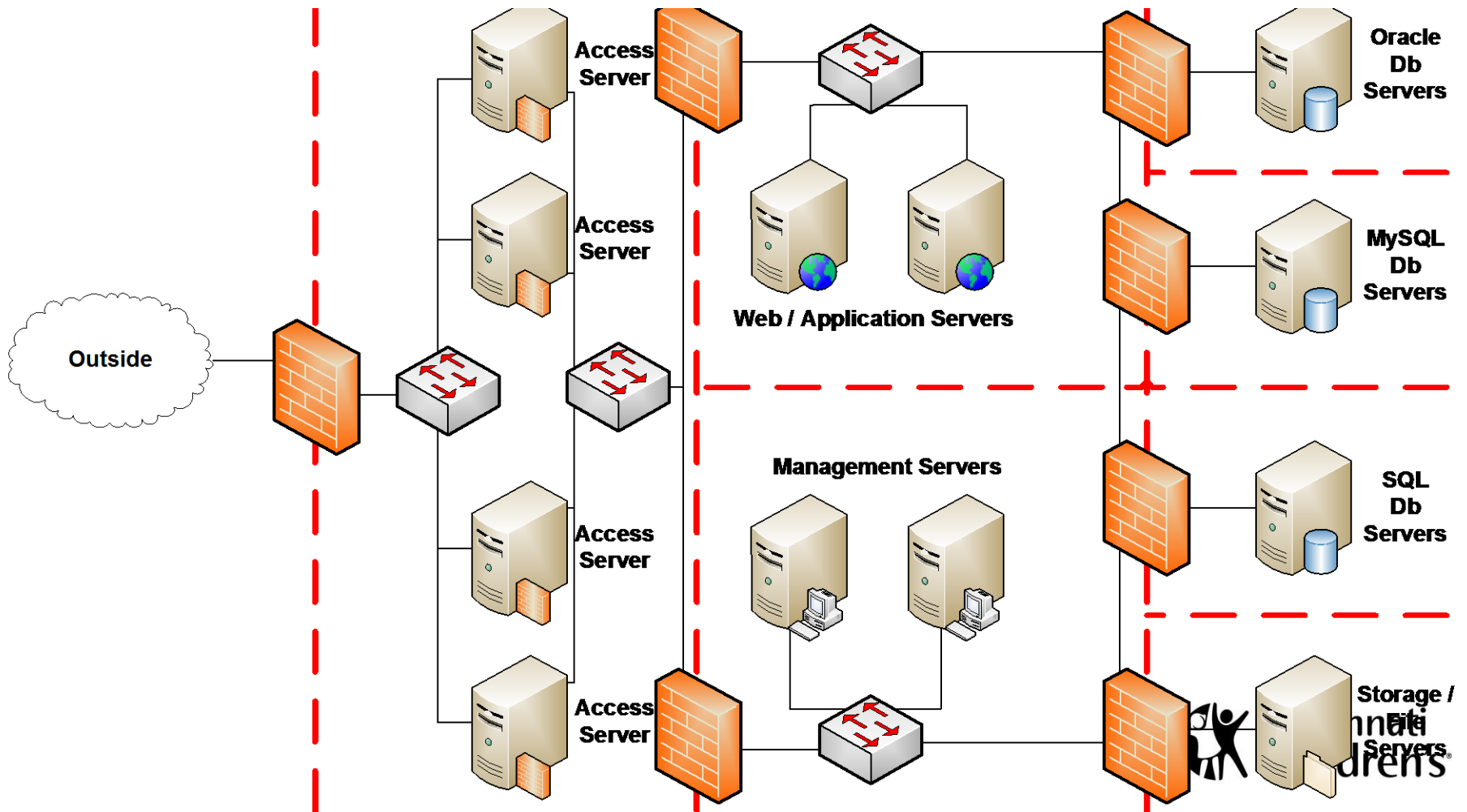
- Nicholas Hunt (nicholas.hunt@cchmc.org)
 - BMI Research IT Security Officer

REVIEW OF MAY OPEN HOUSE

Review

- Perform Security Review of the Current Research Environment / Application
- Implemented New Network / Central Identity Portal for Self-Service Capabilities
- Implemented New Policies for Users and Owners to Replace Existing Agreements and Processes

Review (cont.)



ACCESS TOOLS / OPTIONS

Access Tools / Options

- Different Methods for Accessing Applications
 - Web Access
 - Virtual Desktop Environment (VDI)
 - Virtual Private Network (VPN)
 - SSH
- Access Tools Based on Needs / Application Architecture

Access Tools / Options (cont.)

- Web Access
 - Primary access for the environment
 - Used for web-based applications that need to be published for user access
 - Is accessible for both internal and external users using the same links / methods
 - e.g. same <https://access.research.cchmc.org> for both internal and external users
 - SSO across web applications published via this method

Access Tools / Options (cont.)

http://logint.chmcres.cchmc.org/pub/login3... CCHMC Research ID Login

File Edit View Favorites Tools Help

Page Safety Tools

Cincinnati Children's **CCHMC Research ID Login**

CCHMC Research Network Login

Please use the appropriate links below paragraph to log in using your CCHMC Research Network login. When logging in, you may use the login that was provided to you during registration or by CCHMC.

If you have not registered or have not been provided a CCHMC Research Network ID, please click on the External Users link and follow the instructions for registering a new account.

If you have any problems logging in, please contact BMI using the contact information provided on the [Help](#) page.

If you have questions about CCHMC Research Network security policies and practices, please go to the [Policies](#) page for more information and documentation regarding CCHMC's Research Network policies and practices.

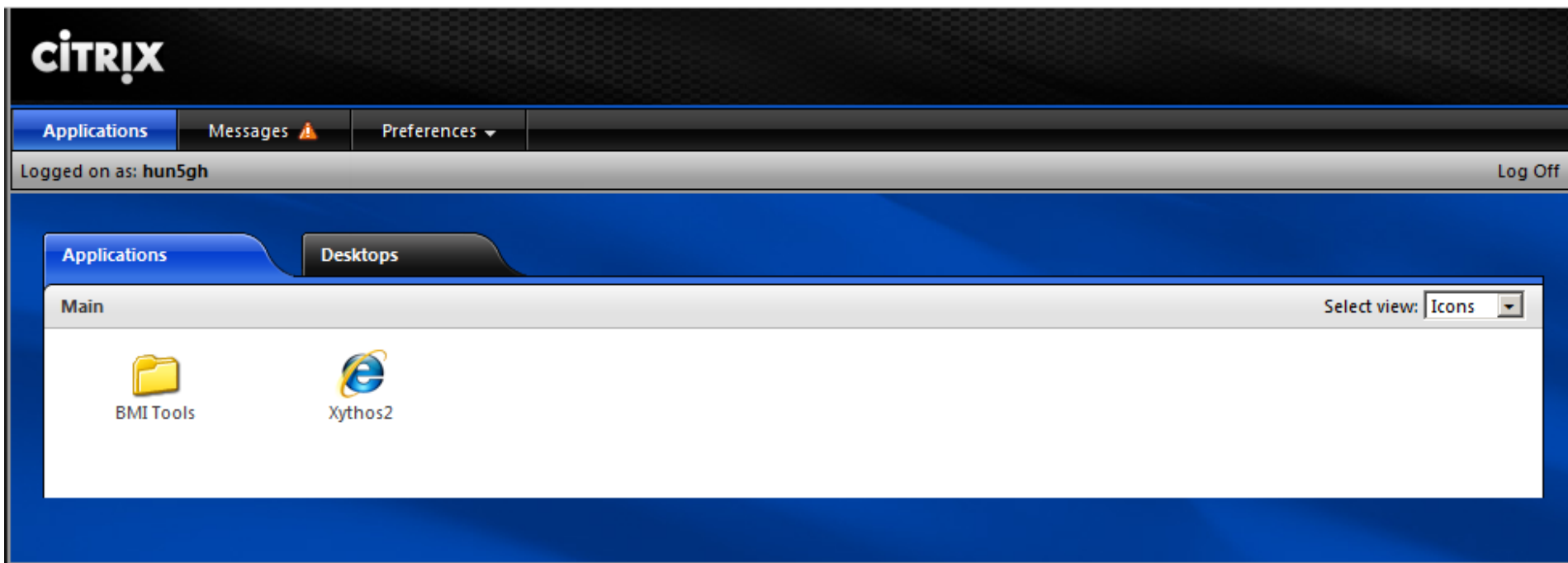
CCHMC Users **External Users** **Federated Users**

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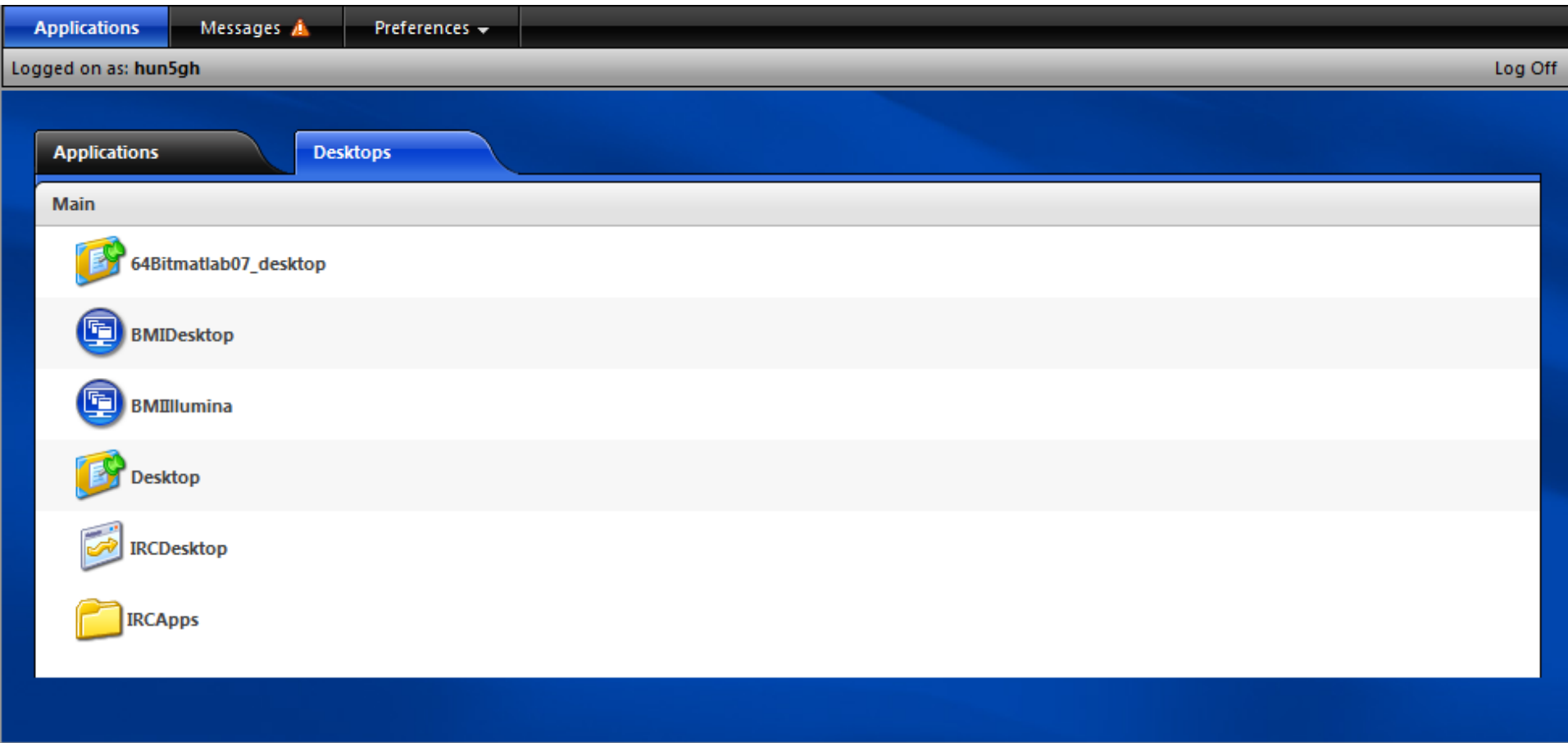
Access Tools / Options (cont.)

- Virtual Desktop Environment (VDI)
 - Normal desktop login / application access via Windows 7 desktops / Server 2008 servers
 - Used for client / server applications
 - Can be used for application hosting (clients / web) or desktop access
 - Can be used to restrict data access / copying from local machines (keep everything local)
 - Accessible internally and externally for all users
 - Cut down on shared application licensing

Access Tools / Options (cont.)



Access Tools / Options (cont.)



Access Tools / Options (cont.)

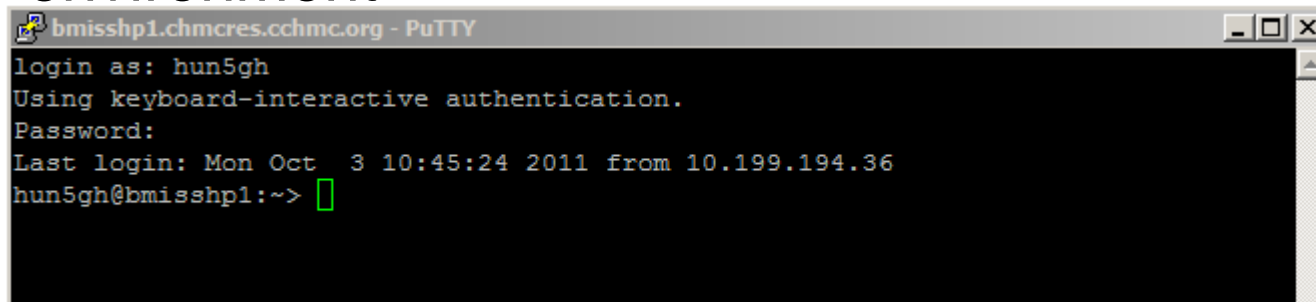
- Virtual Private Network (VPN)
 - Primarily for administrator / developer access to the environment
 - Gives full access to hosted servers / applications
 - Used for research file share access
 - SSL VPN for ease of use
 - Web meetings for desktop sharing

Access Tools / Options (cont.)

The screenshot displays the Juniper Networks Secure Access SSL VPN user interface. At the top left is the Juniper Networks logo. The top right navigation bar includes icons for Home, Meetings, Preferences, Help, and Sign Out, along with a search box and a 'Browse' button with a '(tips)' link. Below the navigation bar, a welcome message reads: 'Welcome to the Secure Access SSL VPN, chmcrs\hun5gh.' The main content area is divided into three sections: 'Web Bookmarks' (displaying 'You don't have any web bookmarks.'), 'Terminal Sessions' (featuring a 'Launch' button and the text 'Remote Desktop Session to Hostname or IP (eg: test.device.net or 192.168.2.3)' and 'You don't have any terminal sessions.'), and 'Client Application Sessions' (displaying a 'Network Connect' option with a 'Start' button).

Access Tools / Options (cont.)

- SSH
 - Used for direct command line access to servers in the environment (outside of VPN)
 - Used for cluster access
 - Allow secure transfer of files in/out of the environment



```
bmisshp1.chmcres.cchmc.org - PuTTY
login as: hun5gh
Using keyboard-interactive authentication.
Password:
Last login: Mon Oct  3 10:45:24 2011 from 10.199.194.36
hun5gh@bmisshp1:~> █
```


Access Tools / Options (cont.)

- Common Username / Password
 - All access methods use the same username password for access
- Security Monitoring / Response
 - Network attack monitoring and central logging of access
- Unified Access
 - Is the same for internal and external users

MANAGEMENT TOOLS

Management Tools

- Central Identity Portal
 - Central place for administering user accounts / access
 - Role based access to applications / access methods
 - Give access to 1 role, then will give users access to everything that is needed
 - Central reporting of who has access to applications
 - Approval based workflows for access

Management Tools (cont.)

The screenshot shows a web browser window displaying the 'My Profile' page of the Cincinnati Children's Hospital Medical Center. The page includes a navigation menu on the left, a header with the logo and 'My Profile' title, and a main content area with a registration form.

Cincinnati Children's
Research IT Services - Division of Biomedical Informatics

Welcome Aaron Con HOME | LOGOUT | ABOUT

My Account
My Resources
To-Do List
Users
BMI Management
Help

New External Account Registration

External Account Information		Validation Issues
First Name	<input type="text"/>	
Last Name	<input type="text"/>	
Email	<input type="text"/>	
Email User	<input type="checkbox"/>	

All fields are required

The new user properties will be generated (temporary), the account will not be created yet

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Management Tools (cont.)



- ▶ My Account
- ▶ My Resources
- ▶ To-Do List
- ▶ Users
- ▶ BMI Management
- ▶ Help

Advanced Role Requests

Userid Name
First Name
Last Name

Grant Resource

Select a new role:

User's existing Application Roles

BR_AllUsers

BR_BulkLoad

BR_RedcapUsers

Revoke Resource

Select a role to revoke:

Management Tools (cont.)



My Profile

Research IT Services - Division of Biomedical Informatics

Welcome Aaron Con

[HOME](#) | [LOGOUT](#) | [ABOUT](#)

- ▶ **My Account**
- ▶ **My Resources**
- ▶ **To-Do List**
- ▶ **Users**
- ▶ **BMI Management**
- ▶ **Help**

My Resource Status

Request ID	Application Name	Application Role Name	Status	Date Submitted
22	App1	App1	Approved	2011-05-09
21	App1	App1	Denied	2011-05-09
41	App1	App1	Pending	2011-05-09
0	not mapped yet	not mapped yet	Revoked	2011-02-14

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Management Tools (cont.)

- Security Testing
 - Perform vulnerability testing against hosting servers / systems
 - Done automatically currently
 - Perform vulnerability testing against new and existing applications
 - Goal is to identify potential holes in the environment so they can be fixed before they cause issues

MIGRATION / DEVELOPMENT / DEPLOYMENT STEPS

Migration / Development / Deployment

- Checklist
 - Covers basic setup of the application
 - Owner / Contacts
 - Users
 - Usage
 - Data (compliance)
 - Requirements
 - Covers application technology
 - Used to gather all the information needed for the deployment, testing, and verification of operation

Migration / Development / Deployment

- Information to Gather for Deployment
 - Owner
 - Who is the primary owner of the application in the event of problems
 - Users
 - Who are the users of the application
 - Who are the administrators that need access to authorize access to the application
 - Usage
 - Are there large data transfers? Short burst of usage or consistent usage?

Migration / Development / Deployment

- Data (Compliance)
 - Does the application contain PHI? Other protected information?
- Requirements
 - Uptime / support requirements
 - Storage requirements
 - Security / compliance requirements

DEVELOPMENT TOOLS/SERVICES

Development Tools/Services

- Content management/collaboration tools
 - SharePoint
 - Drupal
 - Xythos
- Application development services
 - Electronic studies
 - Registries
 - Reports/dashboards
- More info
 - <http://bmi.cchmc.org>
 - Ron Bryson (ron.bryson@cchmc.org)

CONCLUSION / Q&A