Virtualization Where IT Counts

Technical Brief and Value Proposition

Sharon Chen
CSL International
What is CSL-WAVE?

- Management, Provisioning, Automation and Simplification solution for virtual server farms
- Currently supporting only the z/VM environment
- Based on a 3-Tier Architecture:
  - CSL-WAVE Server - Running our BTS (Background Task Scheduler) and the knowledge-base DB
  - TVP (Target Virtualization Platform) API that drives SMAPI and our Service Machines
  - GUI Client(s) – Where the our users (Linux sys-admins) logs on to manage the virtual server farm(s)
CSL-WAVE Tiers

- **The Server Tier** *(May be virtual or physical server on the LAN)*
  - Hosts the system’s knowledge-base
  - Runs the BTS which:
    - Schedules periodic interrogations of the TVP
    - Updates the knowledge base with status of virtual objects and GUI clients
    - Acts on ad-hoc requests from the GUI users and internal processes

- **The TVP-API Tier:**
  - Mediates requests from the GUI Client(s) and the BTS to the TVP
  - Drives the z/VM SMAPI, DIRMAINT/VMSECURE and CSL-WAVE Service Machines
  - Feed ad-hoc information solicited or unsolicited from the TVP to the knowledge base to be used by the GUI and the Server

- **GUI Client Tier:**
  - Interrogates the DB and dynamically displays a graphic interpretation of the knowledge-base
  - Acts on user input and issues dynamic requests to the TVP directly via the API and indirectly via the BTS
Why Use CSL-WAVE?

Because any size virtual server farms managed by CSL-WAVE are extremely easy to deploy and manage.

Because using CSL-WAVE, zLinux sys-admins, can take full advantage of the mightiest virtualization platform with no z/VM skill sets.

Because of our simplification and automation technologies, organizations can lower their IT TCO as virtual server farms on z architecture are now easily attainable!
Why Use CSL-WAVE? (Cont.)

Because you can manage multiple CPCs with multiple z/VM instances in each CPC (all in the same CSL-WAVE instance)

e.g. Two CPCs with virtual z/VM servers clouds on each CPC
Why Use CSL-WAVE? (Cont..)

Supports all the major Linux distributions:

You may choose to view servers grouped by OS distribution.

- SLES9-64BIT: 3 Users
- SLES9-31BIT: 23 Users
- RHEL4-31BIT: 4 Users
- SLES10-64BIT: 4 Users
- RHEL5-64BIT: 6 Users
- RHEL4-64BIT: 5 Users
Why Use CSL-WAVE? (Cont.)

Get real-time performance overview of your system:

- Total Storage Utilization
- z/VM CPU Utilization
- z/VM Page Space Utilization
- z/VM Spool Space Utilization

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Why Use CSL-WAVE? (Cont.)

Fully abstracts and simplifies the z/VM environment with intuitive graphic objects.

Real-time virtual guest LAN topology:
Why Use CSL-WAVE?

Real-Time server-farm-wide storage utilization:

- 43.91 TB Used Assigned Storage
- 1.65 TB Used Defined Storage
- 3.75 TB Free Defined Storage
- 13.37 TB Enabled Storage
- 9.58 TB Free Assigned Storage

z/VM Storage Distribution - Total Disk Capacity: 72.22 TB
Why Use CSL-WAVE? (Cont.)

Storage-Group quota-based management:

LIPTYONE  (1.78/2.67 TB FREE)
GRLINUX   (6.16/48.13 TB FREE)
SHARSG    (1.47/2.67 TB FREE)
Why Use CSL-WAVE? (Cont..)

- Show any Server(s)-to-Disk mapping
- Facilitate execution of REXX execs against all/some of the disks!
- Straight from the GUI

* V1.4.2 Feature
Why Use CSL-WAVE? (Cont..)

- Even disks linked via other VM users are mapped
- Known IBM machines may be eliminated from the map
- Automation with local REXX execs is available from the GUI

* V1.4.2 Feature
Why Use CSL-WAVE? (Cont..)

- **Very easy provisioning of new servers:**
  - Create a server from a Prototype/Skeleton ("Golden Image")
  - Cloning of any offline server
  - The new server’s IP-address and hostname are handled by the wizard
  - An initial script may be scheduled to run on the first boot for a local ad-hoc customization of the server

- **Servers may be cloned across systems, targeting any z/VM image managed by CSL-WAVE** *V1.4.2 Feature*

- **Servers may be cloned concurrently to any number of target servers (with a user determined parallelism-level)**
Why Use CSL-WAVE? (Cont..)

- No previous IBM MF and z/VM knowledge is required by the Linux sys-admins
- CSL-WAVE is quick to deploy - One “rpm” installation
- Unique AutoDetect technology
- Exceptionally simplifies consolidation projects
- State-of-the-art GUI for all actions
- CSL-WAVE is geared towards any size server farm virtualization (Multiple CPCs and z/VMs)
CSL-WAVE Benefits:

- Enables z/VM as a practical and economical solution for “Virtual Server Farms with NO LIMITS”
- Support for ANY-SIZE (!) server farm
- Multiple CPCs and z/VMs managed via central control
- Extended IT team control over the server farm while cutting costs
- Delegate administrators authority with full control of Scopes and Permissions

CSL-WAVE: All z VM POWER Without z VM Learning Curves...
CSL-WAVE Effects on Virtual Server farms management

- Removing most of the stumble blocks users fear of normally when moving to new computing environments
- z/VM expertise are not needed by the Linux sysadmins
- Simplification and automation of provisioning tasks are achieved via CSL-WAVE’s advanced architecture and GUI
- Linux sysadmins and gurus control their own servers with minimum to no interaction with the z/VM system programmer, nor do they need any z/VM know-how
- CSL-WAVE Clears the path and paves the road to consolidating with z/VM and z/Linux, thus -
- Enables the organizations huge TCO savings – Millions of $$$
- Doing it all with the same skill set currently onsite
CSL-WAVE Value Proposition Summary:

- CSL-WAVE simplifies and automates the virtual server farm’s management on z/VM, thus...
- Putting the power of mightiest platform in every datacenter’s technical reach through our innovative and intuitive GUI based architecture, abstracting every z/VM resource and operating procedure for an E-Z Access
- The use of CSL-WAVE facilitates easy and fast elimination of physical components through virtualization, which beyond the cost reduction -
- Directly improves IT teams’ SLA to better match the business units dynamics
- Much simpler DRP
- All of the above value points geared towards:

Driving your IT COSTS DOWN!
Remember:

**CSL-WAVE = All z VM POWER !!!**

(Without z VM Learning Curve...)

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Slide No: 18
Questions?!
Thank you for your time..

We can show more slides outlining more CSL-WAVE Features, or, go to the demo!!
CSL-WAVE Main Features:

- Supports any size virtual Linux server farm (Multiple CPCs with multiple z/VM instance on each CPC are supported)
- Auto-detect Wizard for a fast & bullet proof installation
- Delegate Scope and Permissions at specific “Action” resolution with role definitions control – The user sees objects within his/her allowed scope only and within this scope, perform actions listed in the allowed set of activities only!
- System Status Display Shows the performance, page and spool info
- Intuitive GUI for every z/VM and Linux provisioning task
- Group displays and operations, with full central control
- Powerful filter combinations are available for any display e.g. By Site-Groups, User-Groups, Projects, Linux Deployment, Guest-LANs, Server-Name-Mask and Status (Active/Inactive)
CSL-WAVE Main Features:

- **Graphical Management of Switches/LANs** within z/VM including a LAN-Connect wizard so you just draw your LAN and let CSL-WAVE do the rest of the work.

- **Graphical Management of Disk Storage** by quotas, while conforming to the scope and permissions policies.

- **Enhanced Cloning Wizard** Clone a Server, a Prototype, or server Definitions only for effortless multiple clones (With an init-script on the cloned server first boot).

- **CSC: Cross System Cloning** offer the same cloning abilities across systems simply by setting a target z/VM system name in the cloning wizard (* V1.4.2 Feature *)

- **CLC: Connection-Less-Communication** Full access proprietary terminal session with edit capabilities to any virtual server even when the TCPIP connection to the server is dropped!!

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CSL-WAVE Main Features:

- Full user/system activity logging (and review), with filtering by user/system/date-time stamp and severity
- Multiple Object Selection option to apply most of the administrative actions needed to multiple object with minimum efforts (Start, Stop, Restart, Send messages, Execute scripts, Connect to / disconnect from Guest-LANs / VSwitches and more...)
- Session Background Tasks, All actions may be move to the BG as GUI Session Tasks (Optionally, the user can check on the tasks’ progress and status)
- Comprehensive Report Manager for generating, running and saving for later use private and global reports
CSL-WAVE Main Features:

(Cont..)

- Powerful Script Manager facility to manage private and global scripts that may be run on any selected server or group of servers - Filtered directly from the CSL-WAVE’s GUI
- Automatic Properties View of every selected object
- User authentication via Active Directory or CSL-WAVE’s own DES-3 encrypted password
- Elimination of Duplicate CSL-WAVE user Sign-Ons for security and logging reasons
- “Already Sign-On” Detection with IP identification of the currently signed-on WS to assist the detection of potential attempts to breach security
That’s all folks...
Thank you for your time